Bronwyn Byrnes

From: Jodie Ball
Sent: Friday, 22 August 2014 10:58 AM
To: Jacqueline Au
Subject: FW: Form submission from: Contact us [SEC=UNCLASSIFIED]

Follow Up Flag: Follow up
Flag Status: Flagged

Security Classification:
UNCLASSIFIED

Jodie Ball
Accredited Mediator NMAS
Deputy Director
Investigation and Conciliation Service

Australian Human Rights Commission
Level 3, 175 Pitt St, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 9284 9627 F +61 2 9284 9611
E Jodie.ball@humanrights.gov.au W www.humanrights.gov.au

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-----Original Message-----
From: Info Service
Sent: Thursday, 21 August 2014 12:53 PM
To: Jodie Ball
Subject: FW: Form submission from: Contact us [SEC=UNCLASSIFIED]

-----Original Message-----
From: Australian Human Rights Commission [mailto:webfeedback@humanrights.gov.au]
Sent: Thursday, 21 August 2014 10:38 AM
To: Communications Unit
Subject: Form submission from: Contact us

Submitted on Thursday, August 21, 2014 - 10:38am
Submitted by anonymous user: 203.12.195.65
Submitted values are:

--Web enquiry form--
My enquiry is regarding: Communications - <a
href="mailto:communications@humanrights.gov.au">communications@humanrights.gov.au
(anything else that doesn't fit in the other categories;
including messages for the Commissioners, queries about
information on our website or just to lodge your opinion or
comments)
Name: Rohan Westbury
Email: rohan.westbury@dsdbi.vic.gov.au

Comments: Hello. I manage the policy approach to web accessibility for the Victorian Government. I'm seeking clarification on the AHRC's position on PDF accessibility, even if that is only to restate that the position offered in your advisory note of 2010 continues to stand. At the last CJCIOC web accessibility sub-committee I attended the position appeared to be that whilst PDFs can be made WCAG 2.0-conformant in some circumstances, the Commission remained uncomfortable with endorsing PDFs as accessible because not all AT would be able to read those PDFs, notwithstanding the efforts to make them accessible. If this is the case, I would like to advise my agencies that this is the case. To be clear, what I am seeking here is the AHRC position - not the AGIMO position - so I'd appreciate if the AHRC could respond to this rather than refer me to AGIMO. Kind regards, Rohan Westbury - Senior Manager, Digital Government, Department of State Development, Business and Innovation, Victorian Government.

The results of this submission may be viewed at:
https://www.humanrights.gov.au/node/9203/submission/8661

Bronwyn Byrnes

From: Penny Gerstle
Sent: Monday, 22 September 2014 11:37 AM
To: rohan.westbury@dsdbi.vic.gov.au
Subject: PDF and accessibility [SEC=UNCLASSIFIED]

Security Classification:
UNCLASSIFIED

Hello Rohan,
I am sorry it has taken me so long to respond to your email regarding the Australian Human Rights Commission's position on PDFs and accessibility. Unfortunately the Commission is not able to take an official position on PDFs as we do not have the resources to do a full evaluation. However, our position has not changed from 2010 as you referenced in your email, that being that we recommend that PDFs are always accompanied by an alternate format(HTML or Word) as PDFs are not accessible to all. Please do not hesitate to follow me up if you need anything further.
Warm regards,

Penny Gerstle
Disability Discrimination Team
Australian Human Rights Commission

Level 3, 175 Pitt Street, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 9284 9835 **F** +61 2 9284 9794
E penny.gerstle@humanrights.gov.au **W** www.humanrights.gov.au
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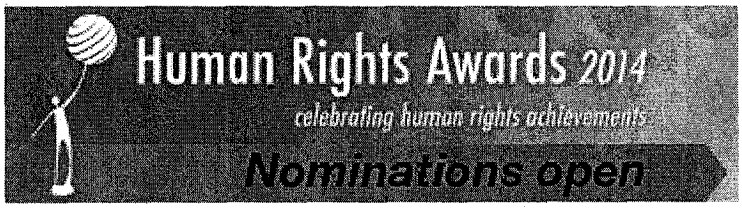

Bronwyn Byrnes

From: Penny Gerstle
Sent: Wednesday, 24 September 2014 4:00 PM
To: Rohan.Westbury@dsdbi.vic.gov.au
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

Security Classification:
UNCLASSIFIED

Yes we should be delighted to contact you when that funding windfall comes our way, but I don't think you can look forward to hearing from us anytime soon on that basis. I will certainly let Commissioner Ryan know of your interest, but as I say there are very limited resources at the moment.
Warm regards,
Penny

From: Rohan.Westbury@dsdbi.vic.gov.au [mailto:Rohan.Westbury@dsdbi.vic.gov.au]
Sent: Wednesday, 24 September 2014 3:50 PM
To: Penny Gerstle
Subject: Re: PDF and accessibility [SEC=UNCLASSIFIED]

Hi Penny.

Thank-you for getting back to me - I am aware of the resource-pressure you're under and empathise completely.

There is considerable misinformation regarding the accessibility of PDF files, so it's good to have the position restated.

Should there be a windfall of funding at some point and you do end up looking at PDF files again, I would very much appreciate getting a heads up on your findings.

Kind regards,

Rohan Westbury
Senior Manager, Digital Government
.....
Department of State Development, Business and Innovation
121 Exhibition Street, Melbourne 3000
p. 965 19395
m. 0428 674 085
e. rohan.westbury@dsdbi.vic.gov.au

From: "Penny Gerstle" <Penny.Gerstle@humanrights.gov.au>
To: "rohan.westbury@dsdbi.vic.gov.au" <rohan.westbury@dsdbi.vic.gov.au>
Date: 22/09/2014 11:37 AM
Subject: PDF and accessibility [SEC=UNCLASSIFIED]

Hello Rohan,
I am sorry it has taken me so long to respond to your email regarding the Australian Human Rights Commission's position on PDFs and accessibility. Unfortunately the Commission is not able to take an official position on PDFs as we do not have the resources to do a full evaluation. However, our position has not changed from 2010 as you referenced in your email, that being that we recommend that PDFs are always accompanied by an alternate format(HTML

or Word) as PDFs are not accessible to all. Please do not hesitate to follow me up if you need anything further.
Warm regards,

Penny Gerstle
Disability Discrimination Team
Australian Human Rights Commission
Level 3, 175 Pitt Street, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 9284 9835 F +61 2 9284 9794
E penny.gerstle@humanrights.gov.au **W** www.humanrights.gov.au
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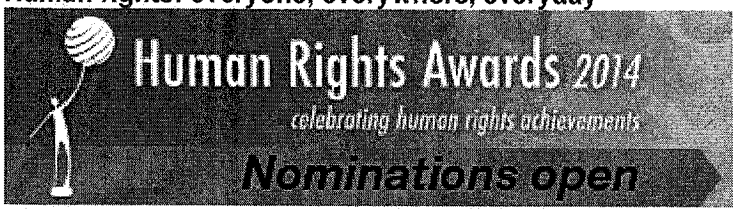

Bronwyn Byrnes

From: Susan Ryan
Sent: Thursday, 14 August 2014 1:15 PM
To: Helen Potts
Cc: Jacqueline Au
Subject: RE: PDF accessibility [SEC=UNCLASSIFIED]

Security Classification:
UNCLASSIFIED

thanks

The Hon Susan Ryan AO
Age Discrimination Commissioner

Acting Disability Discrimination Commissioner

Australian Human Rights Commission
Level 3, 175 Pitt Street, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 9284 9694 | **F** +61 2 9284 9794
W humanrights.gov.au

EA Jacqueline Au – 02 9284 9694
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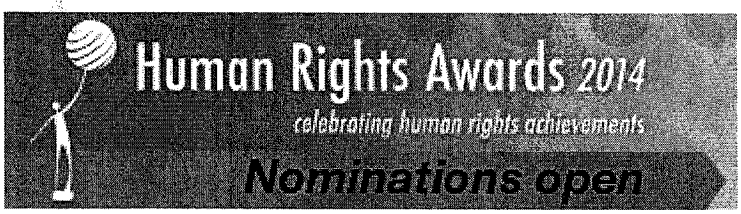

Click here to learn about:

Age Positive

From: Helen Potts
Sent: Thursday, 14 August 2014 12:59 PM
To: Susan Ryan
Cc: Jacqueline Au
Subject: RE: PDF accessibility [SEC=UNCLASSIFIED]

Thanks Susan, will let Andrew know.

From: Susan Ryan
Sent: Thursday, 14 August 2014 12:56 PM
To: Helen Potts
Cc: Jacqueline Au
Subject: RE: PDF accessibility [SEC=UNCLASSIFIED]

Thanks Helen. As the words describe what is the case, I am happy to be quoted as proposed,
Susan

The Hon Susan Ryan AO
Age Discrimination Commissioner

Acting Disability Discrimination Commissioner

Australian Human Rights Commission
Level 3, 175 Pitt Street, Sydney NSW 2000
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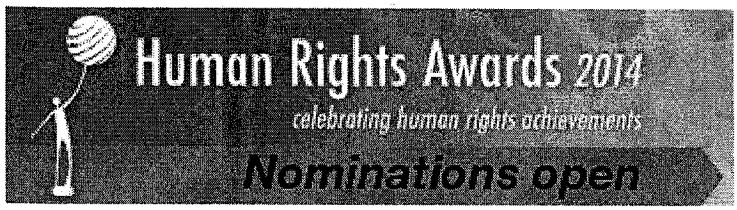

Click here to learn about:

Age Positive

From: Helen Potts
Sent: Thursday, 14 August 2014 12:53 PM
To: Susan Ryan
Cc: Jacqueline Au
Subject: FW: PDF accessibility [SEC=UNCLASSIFIED]

Hi Susan,

Many months ago, Andrew Arch and Jacqueline van Teulingen from the Australian Government Information Management Office (AGIMO) prepared a draft blog post (attached) concerning PDF accessibility. In short, PDFs for mobile devices are not yet accessible as there are no suitable screen readers available for mobile devices. Hence, AGIMO and the Commission do not consider PDFs to be fully accessible. Graeme had approved a quote for insertion to the blog post.

Graeme's notes provide further information at pages 16-17: S:\Commission Processes\Team Work Planning Space\DRT\Disability Post July 14\14.07.09 Commissioner Innes notes on disability.docx

Andrew and Jacqueline have been attempting to advance the draft blog post through their line management at the Department of Finance but it is proving to be a lengthy process. They continue to try and are asking whether you would be happy to be quoted – see below.

Happy to discuss or Jacqui can follow up with Andrew if you would prefer.

Best
Helen

From: Arch, Andrew [mailto:Andrew.Arch@finance.gov.au]
Sent: Thursday, 14 August 2014 12:33 PM

To: Helen Potts
Subject: RE: PDF accessibility [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi Helen,

Trust you had a good break. I'm trying to advance the PDF issue again ☺

We currently have a quote that Graeme agreed to for inclusion in a public blog post:

> Mr Innes, Disability Discrimination Commissioner, AHRC, says that "Access to the PDF format has significantly improved in the home or office environment. However, in mobile settings – now about 50 percent of internet use in Australia – this is not the case. The Commission therefore continues to regard the PDF format as not accessible in most circumstances."

The blog post message we hope will remain the same, are you able to see if Susan Ryan would be happy to be quoted similarly? We would of course pass the final blog post by AHRC for approval before publishing.

Thanks, Andrew

Dr Andrew Arch | Assistant Director, Web Policy
Digital Government Strategy (AGIMO)
Governance and Resource Management Group
Department of Finance

T: 02 6215 1618 | **E**: andrew.arch@finance.gov.au
A: John Gorton Building, King Edward Tce, Parkes, ACT 2600

UNCLASSIFIED

From: Helen Potts [mailto:Helen.Potts@humanrights.gov.au]
Sent: Friday, 11 July 2014 9:59 AM
To: Arch, Andrew; Van Teulingen, Jacqui
Cc: Sarah Bamford
Subject: PDF accessibility [SEC=UNCLASSIFIED]

Hi Andrew and Jacquie,

Just an FYI that I am going on leave this afternoon – from 14th July to 5th August.

If approval comes through while I am away and you want the blog post to go out with us to tweet and Facebook – I am wondering if you want a quote from Susan Ryan who will be the Disability Discrimination Commissioner from Monday 14th July.

I have cc'd Sarah Bamford on this – who worked as Graeme's media advisor – though I have yet briefed her on this. Will do so shortly. At the same time, if things could wait until I get back, that would also be good.

Best
Helen

Dr Helen Potts
Principal Adviser Disability Rights

Australian Human Rights Commission
Level 3, 175 Pitt Street, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 8231 4210 | **F** +61 2 9284 9611
E Helen.Potts@humanrights.gov.au | **W** humanrights.gov.au

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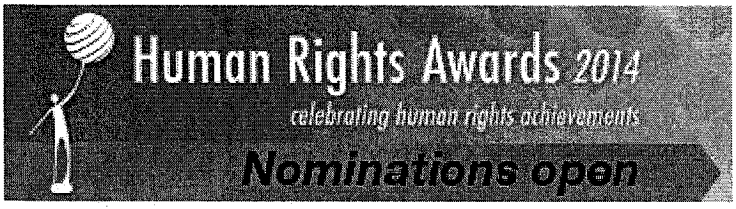

Australian Human Rights Commission

World Wide Web Access:
Disability Discrimination Act Advisory Notes

Version 4.0

October 2010

Contents

Foreword

Individuals and organisations providing information and services via the World Wide Web need to think about how they make their websites and other web resources accessible to people with a disability. One in five Australians has a disability, and the proportion is growing. The full and independent participation by people with a disability in web-based communication and online information delivery not only makes good business and marketing sense, but is also consistent with our society's obligations to remove discrimination and promote human rights.

The UN Convention on the Rights of Persons with Disabilities asserts the right of people with a disability to participate fully and independently in all aspects of society, including the internet and access to information. The Convention calls on parties to take all necessary measures to ensure that these rights are upheld and promoted. Australia has ratified the Convention, and so has obligations to implement policies and practices that are consistent with it.

It has been widely recognised for over a decade that the Web Content Accessibility Guidelines (WCAG) developed by the World Wide Web Consortium (W3C) represent the most comprehensive and authoritative international benchmark for best practice in the design of accessible websites. There is still however a need for much more effort to implement accessible web design, by government, industry, and community organisations. In this context it is noteworthy that the Australian Government, working in collaboration with the states and territories, has developed a Web Accessibility National Transition Strategy for improving the accessibility of government websites through a phased implementation of WCAG 2.0.

Access for people with a disability to the web can in almost all cases be readily achieved if best-practice solutions are implemented. A complaint of disability discrimination is much less likely to succeed if reasonable steps have been taken to address accessibility during the design stage.

The purpose of these Advisory Notes is to provide background information about accessibility and legal issues, as well as advice about how web designers and website owners can minimise the possibility of disability discrimination without sacrificing the richness and variety of communication offered by the web and web-based technologies. This new version (version 4.0) includes specific advice about a transition to WCAG 2.0.

The Commission welcomes suggestions for further updates to these Notes, including links to useful resources. Comments may be sent by e-mail to disabdis@humanrights.gov.au.

Revision History

Changes from version 3.2 of these Advisory Notes:

- Substantial wording changes and content reorganisation;
- Inclusion of reference to the Convention
- Inclusion of list of Ten Common Accessibility Failures
- Inclusion of a section on general principles of accessible content design, in which there is a subsection on the Portable Document Format (PDF) and accessibility that contains updated and expanded guidance on the use of PDF documents;
- Inclusion of information about, and recommendations for implementation of, transitioning to, WCAG 2.0.

Changes from version 3.1 of these Advisory Notes:

- content restructured
- New content added (sections 2.3, 2.4, 3.2)
- Web Content Accessibility Guidelines more clearly endorsed as accessibility standard

1
Introduction

1.1 Purpose and Status of These Notes

These advisory notes are issued by the Australian Human Rights Commission ("the Commission") under section 67(1)(k) of the Disability Discrimination Act 1992 ("the DDA"), which authorises the Commission to issue guidelines for the purpose of avoiding discrimination.

These Advisory Notes are intended to assist individuals and organisations involved in the ownership or development of web resources, by clarifying the requirements of the DDA in this area, and explaining how compliance with them can be best achieved. These Advisory Notes do not have direct legal force, nor do they substitute for the provisions of the DDA itself. However, the Commission and other anti-discrimination agencies can consider them in dealing with complaints lodged under the DDA. Following the advice provided here should also make it far less likely that an individual or organisation will be subject to complaints about the accessibility of their website or other web resource.

Developments in standards, protocols and technologies used on the internet take place at a very rapid rate. These notes are therefore not designed to be exhaustive, or to provide technical advice about current practices. In considering any complaints about access, the Commission would take into account the extent to which a service provider has attempted to utilise the best current information and advice regarding the development of accessible websites.

1.2 What is Accessible Web Design"

In its most general sense, accessible web design refers to the philosophy and practice of designing web content so that it can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. Accessible web design is usually discussed in relation to people with a disability, because this group is most likely to be disadvantaged if the principles of accessible web design are not implemented. Failure to follow these principles can make it difficult or impossible for people with a disability to access web content.

Tim Berners-Lee, the inventor of the World Wide Web and Director of the W3C, has commented that "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."

There are important similarities between designing for accessibility of the physical environment and designing for accessibility of the virtual environment (including the web). Accessibility of buildings and other aspects of the physical environment is best achieved through careful planning and attention to detail, rather than by adding accessibility features at the end of the design process. Similarly, creating accessible web content should be an integral part of the web design cycle, and accessibility features should be incorporated into all aspects of the design process. Testing for accessibility should also be incorporated into all user testing regimes, and should never be seen as an isolated event that can occur after other user testing has taken place. Designing for accessibility is thus as much a strategic issue as a purely technical one.

Accessibility does not require that content be limited to plain text, or that graphics cannot be used. More sophisticated and innovative content can and should also be made accessible. WCAG 2.0 provides many techniques for maintaining visual appeal and dynamic user interaction without sacrificing accessibility. Only in rare cases will it be necessary or desirable to provide alternatives to an otherwise inaccessible feature.

2
Equal Access and the Web: Some Issues

2.1 Introduction

Governments, business, educational and other organisations in Australia use the web as a means of providing the public or sections of the public with access to information and other services in a timely and cost-effective way.
Availability of information and services in electronic form via the web has the potential to provide equal access for people with a disability, and to provide access more broadly, more cheaply and more quickly than is possible using other formats. For example:

- People who are blind or have low vision can use appropriate hardware and software (assistive technology, or AT) to gain access to banking services, online grocery shopping, and electronic documents in braille, audio or large print form;
- Deaf people, and people who have hearing impairments, can have more immediate access to captioning or transcription of audio material;
- Many people whose disability makes it difficult for them to handle or read paper pages can use a computer, for example with a modified keyboard or with voice control;
- Web publications may provide an effective means of access for people whose disability makes it difficult for them to travel to or enter premises where the paper form of a document is available.

By itself, however, the presence of a document or service on the web does not guarantee accessibility. For example:

- Current screen-reading software is not able to interpret information or links presented only in graphical or "image-only" format;
- Content provided only in audio format will not be accessible to Deaf people or some people with hearing impairments unless a text alternative is provided;
- Although users can determine many aspects of colour, size and print font of output for themselves, some approaches to text form or colour will render access difficult or impossible for users who have low vision (and in some cases for many other users also).

Further, people with a disability have lower average incomes than other members of the community because of the extremely high unemployment rate among people with a disability. As a result, they often do not have access to state-of-the-art technologies. So even if access is technically possible, a web resource may not provide reasonable access in practice.

On the basis of available expert information, it is reasonable to conclude that it is technically feasible to remove most barriers to the equal access of web resources by people with a disability, and that this may be done in a way that does not detract from the usefulness or attractiveness of the web to other users. In many cases, incorporating accessibility features will actually benefit all users.

The DDA does not require, and these Notes do not suggest, that web resources be restricted to plain black-and-white text. Forms and formats that give increased functionality for some users, or increased scope for creativity by developers, are not prohibited or discouraged. It is essential, however, that where a feature does not itself provide equal accessibility, an effective accessible alternative is provided, unless this is not reasonably possible.

2.2 Equal Access is Required by Law

The provision of information and online services through the web is a service covered by the DDA. Equal access for people with a disability in this area is required by the DDA where it can reasonably be provided. This requirement applies to any individual or organisation developing a website or other web resource in Australia, or placing or maintaining a web resource on an Australian server. This includes web pages and other resources developed or maintained for purposes related to employment; education; provision of services including professional services, banking, insurance or financial services, entertainment or recreation, telecommunications services, public transport services, or government services; sale or rental of real estate; sport; activities of voluntary associations; or administration of Commonwealth laws and programs. All these are areas specifically covered by the DDA.

In addition to these specific areas, provision of any other information or other goods, services or facilities through the internet is in itself a service, and as such, discrimination in the provision of this service is covered by the DDA. The DDA applies to services whether provided for payment or not.

2.3 Equal Access is a Right

In December 2006 the United Nations adopted the Convention on the Rights of Persons with Disabilities (CRPD, hereinafter referred to as "the Convention"). The Convention asserts a range of fundamental rights and freedoms that people with a disability enjoy as members of society. Article (4)(1)(g) of the Convention calls on parties to "Promote access for persons with disabilities to new information and communications technologies and systems, including the Internet".

Article 21 requires that States Parties take:

> "all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice", ... including

a. Providing information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost;

b. Accepting and facilitating the use of sign languages, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions;

c. Urging private entities that provide services to the general public, including through the internet, to provide information and services in accessible and usable formats for persons with disabilities;

d. Encouraging the mass media, including providers of information through the internet, to make their services accessible to persons with disabilities;

e. Recognizing and promoting the use of sign languages."

Australia was one of the first signatories to the Convention, and it subsequently ratified it in July 2008. While the Australian Government has primary responsibility for meeting Australia's obligations under the Convention, all sections of society, including industry, educational institutions, and community organisations, must play an active role in upholding the rights established by the Convention. Accordingly, any failure to provide full access to the web and other internet-based technologies for people with a disability may be seen as a violation of human rights.

2.4 Publishing Accessible Content on the Web

2.4.1 General Principles

Web designers should be aware that providing access to the navigational features of web resources is not sufficient to make the resource fully accessible. The way in which web content is presented or published will also affect its accessibility. For example, material that is presented only in an image-based format such as GIF or TIF will not be accessible to some people with a disability, including people who are blind or have low vision and who therefore rely on braille, synthetic-speech, or screen-magnified output to read computer screens.

The accessibility of documents published on the web is best achieved by following general principles of accessible document design from the earliest stages of authoring. It is generally more difficult and time-consuming to add accessibility features in the final stages of publishing. The accessibility of a document depends on a number of factors, and is not guaranteed merely by publishing it in a particular format. Factors that must be taken into account include:

- the use of features that provide consistent information about the structure of the content (for example, the use of styles to indicate headings rather than manually changing the font attributes in a document);

- the provision of text descriptions for all meaningful graphics, and

- the avoidance of features that are known to be inaccessible (such as including scanned text images).

Document authors and content managers should familiarise themselves with the Guidelines for Accessible E-text produced by the Round Table on Information Access for people with Print Disabilities Inc., available at www.printdisability.org.au.
These guidelines provide more detailed information about the principles that should be followed when designing accessible documents.

The accessibility of material published on the web will also depend on the format in which it is distributed. There are wide variations in the accessibility of different file formats, and some formats are generally considered to be more suited to a particular type of content than others. Feedback that the Commission has received from users and web accessibility experts suggests that traditional HTML is the most universally accessible format. Other formats have advantages and disadvantages that should be considered when deciding which format to use. For example, the RTF format is considered to be more generic, but it is less suited than Microsoft Office Word to representing complex tables so that they can be navigated successfully by screen-reading software. In general, material will be accessible to the greatest number of users when it is published in multiple accessible formats.

When content is published in multiple formats, care must be taken to ensure that all formats contain identical content.

It should also be borne in mind that some content cannot be made accessible online to some people with a disability, especially if it is inherently graphical in nature. Organisations that make such content available online need to consider strategies for making it accessible, for example, by providing text descriptions of pictorial content, or using qualified contractors to produce tactual maps and diagrams on request.

2.4.2 The Portable Document Format (PDF) and Accessibility

The Commission receives frequent requests for advice about the accessibility of content published in PDF. The following information is therefore provided to help clarify some of the issues that arise in discussions of PDF and accessibility for people with a disability.

The Portable Document Format (PDF) file format was originally developed by Adobe in 1992 but is now an open standard (ISO 32000-1:2008). PDF has become widely used for making documents available on the web and through other distribution channels. Recent versions of the PDF specification allow the inclusion of a variety of features designed to improve access for people with a disability, especially for people who are blind or have low vision. These features include:

- markup tags (conceptually similar to HTML markup) to specify elements of a document's structure;
- facilities for adding text descriptions to graphics; and
- a mechanism for specifying the logical reading order of columnar text.

If authors incorporate these features into the design of their documents, the resulting accessibility will be improved for people who use assistive technology such as screen-reading software that has been designed to support these features.

There are currently several limitations to the accessibility of PDF documents

- Accessibility features must be incorporated by the document author, if they are not, the resulting PDF document is unlikely to be fully accessible;

- Some aspects of a document that are often used to convey semantic value (meaning) are not currently supported by accessibility features in the PDF specification. For example, there is no support for the specification of certain font attributes such as underlining and strikethrough. These features are supported in HTML and Microsoft Office Word, and can be essential to the proper interpretation of documents.

- There is currently inconsistent and incomplete support for PDF accessibility features among various assistive technologies used by people with a disability. For example, one widely-used screen-reader supports the "paragraph" tag that allows a user to identify each new paragraph in a document, but the same screen-reader does not support the "heading" tag that allows a user to identify and navigate quickly from heading to heading. Another popular screen-reader supports the "heading" tag but does not support the "paragraph" tag.

- There is no international guideline that has been developed through broad-based stakeholder consultation and which expresses the characteristics that a PDF document must have for it to be regarded as meeting accessibility benchmarks.

Based on the best advice available to us, and the results of our own evaluation, the Commission is compelled to conclude that none of the screen-readers currently available on the Australian market support all the accessibility features that are defined in the PDF specification, or even all of those features that would be reasonably considered essential for an equal and independent user experience interacting with PDF documents.

The Commission's advice, current August 2010, is therefore that PDF cannot be regarded as a sufficiently accessible format to provide a user experience for a person with a disability that is equivalent to that available to a person without a disability, and which is also equivalent to that obtained from using the document marked up in traditional HTML.

Accordingly, organisations that publish documents only in PDF risk complaint under the DDA unless they make the content available in at least one additional format and in a manner that incorporates principles of accessible document design. Additional formats should be published simultaneously with the PDF version, and at least one such format should be downloadable as a single document if the PDF version is available as a single download.

Because the use of accessibility features in PDF documents does improve their accessibility for some users, the Commission's advice is that all documents published on the web in PDF should be authored to incorporate as many accessibility features as possible, including, as a minimum:

- The explicit specification of logical reading order;
- Provision of text descriptions for all meaningful images (Alt-text);
- Proper construction of tables using the appropriate markup tags;
- The use of paragraph, heading, and list tags.

The Commission strongly encourages developers of the PDF specification to work closely with users with a disability to identify an optimal set of accessibility features, and to add those that are currently lacking.

Developers of assistive technologies such as screen-reading software are also strongly encouraged to provide standardised and complete support for those accessibility features that are available to document authors as part of the PDF specification.

The Commission will review the accessibility of PDF documents again in 2013, by which time it is expected that the provision, support, and utilisation of accessibility features will have improved.

2.4.3 Accessibility and Document Security

Some file formats provide mechanisms for enhancing the security of documents by preventing unauthorised editing, copying, or printing. Some of these mechanisms are not compatible with accessibility for people with a disability, and document authors should ensure that security features do not prevent access to the document by assistive technology.

If there are concerns about ensuring the authenticity of material published on the web in multiple formats, then a statement should be included that specifies which format is to be regarded as definitive or authorised, and noting that additional formats are being provided to maximise access.

2.5 Access to Specific Technologies

Rapid developments continue to take place, both in the mainstream technologies that are used on the internet, and also in the specialist approaches that are used by manufacturers of screen-reading software. The move towards the adoption of standards based on XML should be of benefit to accessibility initiatives. However, there is often a considerable lag time between a beneficial development in technology, or accessibility support for that technology, and when the average user with a disability is in a position to benefit from its implementation. New versions of screen-reading software are generally quite expensive, and training opportunities are extremely limited.

Web designers should assume that most users with a disability will not have access to the most current version of software, or know how to use its advanced features. This is true even if a particular technology is considered to be "accessibility supported" or to comply with WCAG 2.0. Putting this another way, compliance with WCAG 2.0 is strongly recommended, but will not, of itself, always guarantee equal access to the web and the fulfilment of obligations under the DDA and the Convention.

It is important for developers to understand that in many cases the accessibility of a particular technology will be determined by how it is used. For example, it is widely considered that JavaScript can be implemented so as to be accessible. However, JavaScript can also be used in ways that are inaccessible, particularly if full keyboard support is not provided. Similarly, Flash can be implemented in ways that support accessibility, but in practice almost all Flash content is currently either inaccessible to certain groups of users or only partially accessible (for example, due to the use of unlabelled controls).

In other words, it is wrong to assume that improvements in the accessibility of a technology mean that it can be used indiscriminately, without regard for the principles of accessible web design.

Developers of web content have a clear responsibility to ensure that they use technologies in ways that are accessible and which take into account the realistic situation of users.

3
Access advice: General Issues

3.1 Introduction

The Commission believes that the Web Content Accessibility Guidelines (WCAG) 2.0 that were released by the World Wide Web Consortium (W3C) in December 2008 provide the most comprehensive set of testable benchmarks for assessing key aspects of the accessibility of websites and other web content, and represent current international best practice in most areas of accessible web design. Familiarity with techniques for implementing these guidelines is therefore essential for anyone involved with the design or evaluation of accessible web content.

It should be emphasised, however, that accessibility of web content cannot always be achieved solely through compliance with WCAG 2.0. In addition to these Guidelines, web designers and authors will need to make themselves familiar with a range of tools, resources, and emerging best-practice solutions, as they meet their accessibility goals and responsibilities under the DDA and the Convention. This is particularly the case in areas that are not comprehensively addressed in WCAG 2.0, such as the needs of people with cognitive disabilities.

There may also be situations where it is appropriate to use technologies that are not strictly compliant with WCAG 2.0 but which can nevertheless deliver enhanced accessibility. An example is the increasing use of social networking technologies such as Twitter and Facebook to create "amplified events". Although there are features of these technologies that are currently not fully accessible, they can be used in ways that enhance and possibly even allow participation by people with disabilities if general accessibility principles are followed. For example, if Twitter is used in a classroom or conference environment and tweets are projected onscreen, then alternative non-visual access to the onscreen information will need to be provided to accommodate participants who are blind or have low vision. The Commission recommends that expert accessibility advice be sought about current best-practice approaches to the use of emerging technologies.

3.2 The Importance of Expert Advice

In considering a disability discrimination complaint about web accessibility, the Commission takes into consideration the extent to which the best available advice on accessibility has been obtained and followed.

The Commission strongly encourages web designers to use expert advice and information that is up to date with web content publishing and access challenges and solutions. A number of Australian companies and organisations provide consultancy and design services with specialisation in accessibility. There is currently no national accreditation system for expertise in this area, so potential clients of such services should use standard assessment practices such as speaking with referees and examining samples of their work.

There are a number of evaluation tools and techniques that web designers can employ to test the accessibility of their sites. However, there is no complete substitute for user testing, and designers should, wherever possible, involve users of assistive technology in the testing and evaluation of the accessibility of their websites and web content.

3.3. Ten Common Web Accessibility Failures

Although there are many reasons why a web resource may be inaccessible, a number of common accessibility failures account for a significant proportion of the problems that people with a disability encounter when using the web. The following are ten such failures. Web developers should ensure that they design their websites so as to avoid them, and should take steps to rectify them if they are already present.

1. Failure to include appropriate text descriptions (such as "alt-text" labels) for images;

2. Failure to provide accessible alternatives when using a visual CAPTCHA;

3. Failure to use technologies (such as Flash and JavaScript) in ways that are accessible;

4. Failure to use HTML features appropriately to indicate content structure such as the hierarchy of headings;

5. Failure to explicitly associate form input controls with their labels;

6. Failure to ensure sufficient difference between foreground (text) colour and background colour;

7. Failure to identify data tables with Summary or Caption, and failure to mark-up data tables correctly;

8. Failure to provide a way for users to disable content such as advertisements from flashing rapidly (rapidly-flashing content may cause seizures in susceptible individuals), and failure to provide a way for users to stop a page from auto-refreshing;

9. Failure to ensure that web pages can be used from the keyboard (that is, without the mouse);

10. Failure to alert the user to changes on a web page that are triggered automatically when selecting items from a dropdown menu.

It is beyond the scope of these Advisory Notes to provide technical advice about how to rectify these failures. In most cases, however, they represent non-compliance with various WCAG 2.0 Success Criteria (see section 4.3.1 below for a brief explanation of WCAG 2.0 Success Criteria), and the W3C provides a comprehensive range of technical documentation about how to comply with WCAG 2.0. Web developers who need further advice or clarification should seek the assistance of a web accessibility consultant.

4.1 Introduction

The Web Accessibility Initiative (WAI) of the W3C has developed several sets of guidelines focussing on various technologies associated with the design or use of the web. The Web Content Accessibility Guidelines (WCAG) 1.0 were released as a W3C Recommendation in May 1999. WCAG 1.0 became an international benchmark for web accessibility, and the previous version of these Advisory Notes endorsed their use in the Australian context. In June 2000, the Online and Communication Council (OCC), representing the Commonwealth and all state and territory governments, agreed that WCAG 1.0 would be the common best practice standard for all Australian government websites.

Following a period of extensive review and public consultation, the W3C released version 2.0 of WCAG in December 2008. WCAG 2.0 is now a stable document and may be used as reference material or cited as a normative reference from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and universality of the web.

WCAG 2.0 has now been endorsed for use by governments in Australia:

- At the end of 2009, the Australian Government's Secretaries' ICT Governance Board (SIGB) endorsed the Australian Government's transition to WCAG 2.0. The endorsement requires all Australian Government websites to implement WCAG 2.0 to AA level over a four-year period. The SIGB's authority applies to agencies managed under the Financial Management and Accountability Act 1997 (FMA Act).

- The OCC have endorsed WCAG 2.0, requiring all federal, state and territory websites to conform to WCAG 2.0 to Single A level by the end of 2012.

In June 2010, the Australian Government released its Web Accessibility National Transition Strategy (NTS), which sets out a strategy and workplan for transitioning to WCAG 2.0 over a four-year period. The Strategy is available at http://www.finance.gov.au/publications/wcag-2-implementation/index.html.

4.2 Transitioning to WCAG 2.0

The Commission has given careful consideration to the most effective strategies for implementing WCAG 2.0 in the Australian context, and our advice is as follows:

a) All Australian government websites should comply with the timelines and conformance requirements of the NTS, whether or not they are specifically mandated to do so. In particular, state and territory governments are strongly encouraged to comply with the AA conformance level that applies to Commonwealth Government websites;

b) Non-government websites and web resources whose development commences after July 1 2010 should comply with WCAG 2.0 to a minimum of AA-Level conformance;

c) Existing non-government websites or web resources that undergo substantial change in the period July 2010 – December 2013 should comply with WCAG 2.0 to a minimum level of AA conformance;

d) All existing non-government websites and web content should comply with WCAG 2.0 to a minimum level of AA conformance by December 31 2013.

4.3 The Web Content Accessibility Guidelines 2.0: Some Key Concepts

This section summarises some of the key concepts in WCAG 2.0. Web developers will need to familiarise themselves with the full text of WCAG 2.0 in order to apply them correctly in the design of web content.

4.3.1: Basic Principles

WCAG 2.0 is founded on four "top level" principles, each of which is operationalised by means of general guidelines, success criteria, and sufficient and advisory techniques.

The four foundational principles require that accessible web content must be:

1. Perceivable: Information and user interface components must be presentable to users in ways they can perceive. One implication of this principle is that information cannot be presented in a form that is only available through one sense, such as providing only a visual form of a CAPTCHA.

2. Operable: User interface components and navigation must be operable. In other words, users must be able to operate with the user interface and navigational aspects of a website. One implication of this principle is that interaction with web content should not depend on a user being able to use a physical mouse.

3. Understandable: Information and the operation of user interface components must be understandable. In other words, users must be able to understand both the information (content) and how to interact with it. One implication of this principle is that changes of content or context must not be triggered unexpectedly (for example, through the use of focus changes).

4. Robust: Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies. One implication of this principles is that a webpage should not require the use of a specific assistive technology (such as a specific screen reader) in order to be accessible.

There are twelve Guidelines that provide the next level in WCAG 2.0. There is a varying number of Guidelines associated with each of the four foundational principles, as follows:

1. Perceivable
   - 1.1. Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.
   - 1.2. Provide alternatives for time-based media.
   - 1.3. Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

1.4. Make it easier for users to see and hear content including separating foreground from background.

2. Operable
   2.1. Make all functionality available from a keyboard.
   2.2. Provide users enough time to read and use content.
   2.3. Do not design content in a way that is known to cause seizures.
   2.4. Provide ways to help users navigate, find content, and determine where they are.

3. Understandable
   3.1. Make text content readable and understandable.
   3.2. Make Web pages appear and operate in predictable ways.
   3.3. Help users avoid and correct mistakes.

4. Robust
   4.1. Maximise compatibility with current and future user agents, including assistive technologies.

The next level of WCAG 2.0 is Success Criteria, which are testable statements that indicate whether a particular Guideline has been met. These Success Criteria are written so as to be independent of a particular technology (that is, they are technology-neutral), which maximises their applicability to current and future technologies associated with the web. Success Criteria are identified by the Guideline to which they refer, and also by their level of conformance (Level A, Level AA, or Level AAA). An example of a Success Criterion is as follows:

"1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. (Level A)"

In the above example, "1.1.1" means that this Success Criterion relates to Guideline 1.1, and "Level A" means that it must be satisfied for the web page or content to meet the minimum (Level A) conformance level defined in WCAG 2.0.

It is important to note that while some Success Criteria can be tested automatically (for example, by an accessibility checker tool), others require human evaluation. Accessibility checkers should therefore be seen as an aid to testing but not as a substitute for evaluation by human users.

For each Success Criteria, the WCAG 2.0 Working Group has assembled a growing collection of Sufficient Techniques and Advisory Techniques. These techniques provide practical advice about how to meet the Success Criteria in specific instances and in relation to specific technologies. They are grouped under each Success Criteria, and linked from the main WCAG 2.0 document. In general, it will not be necessary to incorporate all of the Sufficient and Advisory Techniques associated with a particular Success Criterion in order to satisfy it, and developers should choose whichever Techniques are most appropriate for their specific needs.

4.3.2: WCAG 2.0 Conformance Requirements

The WCAG 2.0 has retained the concept of three conformance or compliance levels that was introduced in WCAG 1.0. However, the three levels in the WCAG 2.0 are not equivalent to the three levels in WCAG 1.0, even though they retain the designations "Level A", "Level AA", and "Level AAA". This means that a website that conformed to Level AA under WCAG 1.0 may not conform to Level AA in the WCAG 2.0. Conformance at a particular level requires that all the Success Criteria defined for that level are satisfied. Web developers and evaluators will need to study the conformance requirements for each level very carefully, and they cannot assume equivalence between WCAG 1.0 and WCAG 2.0.

In addition to the three conformance levels, WCAG 2.0 specifies five conformance requirements that must be met if a web page or other web resource is to claim conformance with WCAG 2.0. These requirements are quite detailed, and developers and evaluators will need to study them carefully. One example is as follows (quoting from the WCAG 2.0 document):

> "3. Complete processes: When a web page is one of a series of Web pages presenting a process (i.e., a sequence of steps that need to be completed in order to accomplish an activity), all web pages in the process conform at the specified level or better. (Conformance is not possible at a particular level if any page in the process does not conform at that level or better.)"
> *Example:* An online store has a series of pages that are used to select and purchase products. All pages in the series from start to finish (checkout) conform in order for any page that is part of the process to conform.

The Commission's advice is that all web resources (including web pages and websites) should achieve a minimum of Level AA conformance in order to be consistent with the Aims and Objects of the DDA. In addition, some web resources may need to achieve Level AAA conformance, for example, online resources published by education institutions and which are intended for use by all students studying a particular course.

4.3.3: Accessibility Supported Technologies

WCAG 2.0 introduces the concept of "accessibility supported" to assist developers of web resources determine whether a particular technology (or feature of a technology) is likely to be accessible by people with a disability. The formal definition of "accessibility supported" as given in the Glossary of the WCAG 2.0 document is quite complex, and may be difficult to understand and apply in individual cases without expert advice. An important aspect is that many technologies can be used in ways that are accessibility supported, as well as in ways that are not, but for purposes of assessing WCAG 2.0 conformance, technologies must be used in ways that are accessibility supported. For example: JavaScript and Flash can both be used in ways that are accessible to some assistive technologies, but they can both be used in ways that are inaccessible (for example, if JavaScript does not permit keyboard navigation, or if Flash controls do not have text labels). In general, technologies should not be assumed to be accessibility supported in their entirety.

It is also important to note that a technology may not necessarily be categorised as accessibility supported just because it is supported by a particular assistive technology. For a technology to be regarded as accessibility supported, it must also be reasonably available to users, taking into account financial and other considerations.

Technologies and features of technologies may be used to achieve conformance with WCAG 2.0 only if they are used in ways that are accessibility supported. Technology features can be used in ways that are not accessibility supported (that is, in ways that do not work with assistive technologies, etc.) as long as they are not relied upon to conform to any success criterion (that is, the same information or functionality is also available in another way that is supported).

The Commission encourages web developers to clearly state which technologies they have relied upon in publishing web content.

WCAG 2.0 does not provide a list of accessibility supported technologies, since such a list is likely to require regular updating and is likely to have local variation. The Commission will be working with the Australian Government Information Management Office (AGIMO) and other stakeholders to develop more detailed advice about technologies (and features of technologies) that are considered to be accessibility supported in the Australian context.

Until such advice is available, web developers should give serious consideration to using those technologies that are known to be compatible with WCAG 1.0. In cases where this is not practical, they should seek expert accessibility advice before using other technologies.

4.4. Related Resources

4.4.1 W3C Resources

There is a considerable body of both general and technical literature in the area of web accessibility, involving academic, industry, government and community representatives. A major source of such literature is the Web Accessibility Initiative at the World Wide Web Consortium.

Because WCAG 2.0 is a relatively new Guideline, there are currently few resources such as accessibility checkers available for it. However, the W3C is frequently adding to its collection of WCAG 2.0 resources, including its list of Sufficient Techniques. The following links should provide useful information for web developers:

- How to Meet WCAG 2.0 (Quick Reference Guide): http://www.w3.org/WAI/WCAG20/quickref/
- Understanding WCAG 2.0: http://www.w3.org/TR/UNDERSTANDING-WCAG20/
- Techniques and Failures for WCAG
- 2.0: http://www.w3.org/TR/WCAG20-TECHS/

4.4.2 The Australian Government Web Publishing Guide (soon to be known as the Web Guide)

The Australian Government's Web Publishing Guide is a tool primarily for use by government web teams, but it can also serve as a guide for best practice for the private sector. It contains a section on the design of content that is accessible to people with a disability:
http://webpublishing.agimo.gov.au/Accessibility.html.

The Guide will be progressively updated to include links to resources related to WCAG 2.0 as they are developed to assist in the implementation of the NTS.

The Commission believes that integrating accessibility into general authoring and publishing advice in this way is the most effective strategy for bringing it into mainstream practice. The Web Publishing Guide is intended to evolve to keep pace with best practice. The Commission believes that reasonable attempts to achieve current best practice will generally satisfy the access requirements of the DDA.

5

What Limits Are There on Obligations to Comply With Access Requirements?

The advice provided in these notes is intended to give effect to the requirement of the DDA for access to be provided without unreasonable barriers that exclude or disadvantage people with disability. In some (but not all) circumstances, obligations under the DDA to provide equal access are limited by the concept of unjustifiable hardship.

5.1 Introduction

A respondent to a complaint lodged under the DDA may be able to demonstrate that it would involve unjustifiable hardship to meet particular access requirements. Web designers and content providers should note that unjustifiable hardship has to be demonstrated and cannot simply be assumed. In particular, stylistic preferences rather than functional requirements are highly unlikely to be accepted as constituting a basis for a defence of unjustifiable hardship (other than in cases where the artistic form of a site is a significant function). This does not imply any attempt to prohibit innovative design. It does mean that design must address access requirements, directly or by provision of alternative means of access.

5.2 How is Unjustifiable Hardship Interpreted?

Where issues of unjustifiable hardship have to be decided, section 11 of the DDA requires the courts to consider all relevant circumstances of the case, including:

- The nature of the benefit or detriment likely to accrue, or be suffered by, any persons concerned;
- The effect of the disability of a person concerned;
- The financial circumstances, and the estimated amount of expenditure required to be made, by the person claiming unjustifiable hardship

- The availability of financial and other assistance to the person claiming unjustifiable hardship; and

- In the case of the provision of services, or the making available of facilities—any relevant action plans given to the Commission under section 64 of the DDA.

Some of the ways these factors may apply to web accessibility issues are as outlined in the following sections.

5.3 Nature of Benefit or Detriment

Unjustifiable hardship decisions involve balancing the benefits of providing equal access against any detriment that may be incurred in achieving access.

Benefits to consider in this area include:

- Direct benefits of access to people with a disability;

- Benefits to other users whose browsers, hardware or line connections have relatively limited capabilities and who therefore benefit from provisions of alternatives (for example being able to turn the display of images off for a whole page or for a particular item);

- Benefit to providers by enabling them to reach an increased range of users, and to reduce the need to implement more expensive means of access which the DDA and/or the marketplace might otherwise require.

Relevant forms of detriment to consider might include:

- Difficulties in achieving compatibility between different access requirements;

- Delays in publication associated with translating one format into another.

These factors, however, may affect how access should be achieved, rather than whether it should be achieved at all.

Where there is doubt about how different factors should be weighed up, it should be noted that the concept of unjustifiable hardship has to be interpreted in the light of the objects of the DDA, including the object to eliminate discrimination "as far as possible". The words "unjustifiable hardship" in themselves also indicate that some degree of hardship may be justifiable, rather than any significant degree of expense or difficulty being accepted as prevailing over claims for equal access.

5.4 Effect of a Person's Disability

In the Commission's view, the reference in the DDA to the effect of a person's disability requires recognition of the fact that disability inherently means that a person may not be able to take advantage of some opportunities, equally effectively with other people or in some cases at all (at least in the present state of what is technically feasible). However,

this reference directs attention to the actual effect of a person's disability rather than to assumptions, stereotypes, or generalisations. For example, in the current state of technology the effect of blindness is NOT that a person cannot read web pages. Rather, the effect of this disability is that the person can read only those web pages and web content designed so as to be readable by those devices delivering braille or audio output that are reasonably available to the person.

5.5 Financial Circumstances and Expenditure Required

Financial cost is likely to be less relevant as a limiting factor on required achievement of equal access to web content than in relation to areas such as building access or public transport, where extensive and expensive civil and mechanical engineering requirements arise. To the extent that financial costs do arise, these need to be weighed against the benefits of measures to achieve access, including benefits to people with a disability, other users and potentially to the provider. As indicated by the reference to financial resources, more demanding requirements may be applied to government publishers, corporations and large education providers than to individuals or small businesses. This should not be taken either as a general exemption for smaller providers or as imposing unsustainable requirements on larger providers.

5.6 Action Plan

The DDA allows, and the Commission encourages, service providers to prepare Action Plans indicating the provider's own strategies for eliminating discrimination in its services. Any relevant provisions of such an Action Plan are required to be taken into account in considering a complaint against a provider that has submitted its Action Plan to the Commission. The Commission has materials available on its website that deal with the process of preparing an Action Plan. Direct enquiries should be sent by E-mail to disabdis@humanrights.gov.au.

PDF accessibility

AGIMO / AHRC meeting – 15th February 2012

Background Notes

1. AGIMO released a report in November 2010 on the "Accessibility of the Portable Document Format for people with a disability". The study highlighted that the **issues contributing to the inaccessibility of PDF files, when used with assistive technologies, are not in general directly attributable to the Portable Document Format itself**. The issues that result in an inaccessible PDF file are, in order of impact, were:
    a. **the design of the PDF file** by the document author to incorporate the correct presentation, structure, tags and elements that maximise accessibility;
    b. **the technical ability of the assistive technology** to interact with the PDF file (via the relevant PDF Reader); and
    c. **the skill of the user** and their familiarity with using their assistive technology to interact with a PDF file.
2. AHRC's World Wide Web Access: Disability Discrimination Act Advisory Notes of October 2010 advise that any PDF should have accessibility features incorporated into the document and that "Commission will review the accessibility of PDF documents again in 2013, by which time it is expected that the provision, support, and utilisation of accessibility features will have improved".
3. AGIMO with Adobe conducted a PDF education session in March 2011 about Acrobat and PDF accessibility to raise the level of awareness and knowledge about PDF accessibility features.
4. The Australian Government Web Guide allows agencies to rely on technologies that have WCAG 2.0 sufficient techniques to meet the requirements of the NTS.
5. The W3C released sufficient techniques for PDF on 3 January 2012.
6. AGIMO blogged about Release of WCAG 2.0 Techniques for PDF in mid-January 2012. The AGIMO blog has received many questions and comments seeking clarification.
7. AGIMO's current advice (as elaborated on the blog) is that PDF can be demonstrated to meet the NTS through the application of the General and PDF specific sufficient techniques, although there are still questions about the level to which assistive technologies in use in Australia are "accessibility supported". AGIMO states in discussion on the blog:
    a. strict application of the NTS needs to be balanced with the potential for discrimination complaints that may arise from people who, for many reasons, might use older versions of assistive technologies;
    b. strict application of the NTS does not absolve an agency from their legislative obligation in their delivery of non-discriminatory information and services to the Australian public;
    c. agencies are still advised to follow the AHRC advice and provide an alternative format; and
    d. AGIMO will provide ongoing advice on this matter as it's a primary concern for many agencies.
8. Canadian Government indicates that they will be taking the approach of 'due diligence' with respect to following the standards (e.g. WCAG 2.0 and associated techniques), and that assistive technology capability and user skill is not their responsibility.

Discussion points

- Assistive technology progress since 2010 in supporting accessible PDF features. Availability of NVDA as alternative to JAWS & WindowEyes.
- Activities to progress and encourage the creation of accessible PDFs.
- Potential timeframe for accepting accessible and WCAG 2.0 conforming PDFs as a single publishing format.
- Alternative accessible formats that should be encouraged – Word, DAISY, ePUB, etc?

Bronwyn Byrnes

From: Arch, Andrew <Andrew.Arch@finance.gov.au>
Sent: Friday, 30 March 2012 9:20 AM
To: David Mason
Cc: Dunbar, Shona; Van Teulingen, Jacqui
Subject: PDFs and accessibility - WAI-IG discussion [SEC=UNCLASSIFIED]

Not sure if you've been following any of this WAI-IFG discussion ...
Full discussion: http://lists.w3.org/Archives/Public/w3c-wai-ig/2012JanMar/thread.html
And Andrew K's initial comment: http://lists.w3.org/Archives/Public/w3c-wai-ig/2012JanMar/0287.html

Andrew

-----Original Message-----
From: Ramón Corominas [mailto:listas@ramoncorominas.com]
Sent: Friday, 30 March 2012 1:58 AM
To: Andrew Kirkpatrick
Cc: w3c-wai-ig@w3.org
Subject: Re: Removing PDFs and accessibility

Hi all,

Andrew Kirkpatrick said:

> VoiceOver with PDF documents on the Mac is not as good as > the Windows options but the document content can be read > and used.

Indeed, it is not good at all. I do not even consider PDF to be "accessibility supported" on Mac. As far as I know there is no reader for Mac that can access headings, tables, lists, or any other semantic tagging, nor text alternatives for images or form controls; using VoiceOver it is not posslbe to activate links or fill in forms within a PDF.

In practice, VoiceOver cannot read mucho more than the document's text, so I would say that a PDF document is not more accessible on Mac than a plain text file.

> it is worth noting that AGIMO in the federal government > agrees that well-authored PDF documents can meet WCAG > 2.0 and can be used within the government to comply > with the National Transition Strategy

According to Conformance Requirement #4, PDF documents can only conform to WCAG 2.0 if the techniques used to create it are accessibility supported. Since accessibility support for PDF only exists on Windows platforms, I think the only possibility for PDFs to conform is if they are intended to be available only in a -Windows- closed environment (section 2, point c) in the technical definition of "accessibility support").

> As stated, the PDF Sufficient Techniques are now available, > so technically an agency can rely on PDF by using the WCAG > 2.0 PDF Sufficient Techniques and all applicable General > Techniques, and will be considered to be complying with > the NTS.

"Sufficient" Techniques are only "sufficient" if accessibility support does exist. For example, most -all?- Flash Sufficient Techniques are only supported on Windows platforms -and only if we "forget" that the Flash installer is not accessible at all-, so I would not consider these techniques to be "sufficient" in terms of WCAG 2.0 conformance, unless you are in a closed environment.

> There are many reasons why you may want to offer HTML > documents, but you should also recognize that there are > valid reasons for using PDF documents, and if you find > that these reasons make sense for you, use PDF. But, > when you do use PDF, follow best practices for making > sure the PDF documents meet WCAG 2.0.

I agree that there are many reasons to use PDF documents. Bu, in terms of accessibility, IMHO relying on PDF documents as the only way to provide information can never meet WCAG 2.0 in an open, "World Wide" Web environment.

Regards,
Ramón
--
Ramón Corominas
Accessibility Specialist
Technosite - Fundación ONCE
W: www.technosite.es
T: +34 91 121 0330

RE: Removing PDFs and accessibility

From: Andrew Kirkpatrick <akirkpat@adobe.com>
Date: Mon, 26 Mar 2012 08:49:26 -0700
To: "wed@csulb.edu" <wed@csulb.edu>, David Woolley <forums@david-woolley.me.uk>
CC: "w3c-wai-ig@w3.org" <w3c-wai-ig@w3.org>
Message-ID: <EE43A638A0C5E34E80AF78EFE940FC2C019BC089@nambx09.corp.adobe.com>

Unfortunately the original post doesn't allow comments. My gripe with this post is that it makes many false claims and uses the false claims as evidence to support a conclusion which may be true, but there is no actual data or scientific rigor offered, which makes this interesting as anecdotal data, but nothing more. I'd like to see more information on the study performed, and offer the following questions to consider.

>From the article, with comments:
Mark said major disadvantages of PDFs include:
* not showing up in search results
PDF documents do show up in search results. Google and Bing both index and include PDF documents in search results.

* failing Australian Human Rights Commission requirements for being accessible to people with a disability, such as compatibility with screen readers
Differences do exist, to be sure, but NVDA, as a free screen reader on Windows provides nearly the same level of support as JAWS (support for headings is one of the main issues remaining and I expect we'll see that addressed soon). VoiceOver with PDF documents on the Mac is not as good as the Windows options but the document content can be read and used. The level of support is better than what is provided by a text only or RTF document which the AHRC does suggest is sufficient.
I realize that this department is in the state government, but it is worth noting that AGIMO in the federal government agrees that well-authored PDF documents can meet WCAG 2.0 and can be used within the government to comply with the National Transition Strategy:

(http://agimo.govspace.gov.au/2012/01/12/release-of-wcag-2-0-techniques-for-pdf/comment-page-1/#comment-5632) "As stated, the PDF Sufficient Techniques are now available, so technically an agency can rely on PDF by using the WCAG 2.0 PDF Sufficient Techniques and all applicable General Techniques, and will be considered to be complying with the NTS. This addresses one of the findings of our PDF study by ensuring the design of the PDF file is optimised for accessibility."

More on this in a bit...

* penalising people who have slow internet connections
* often extremely large document sizes.
These are really the same point, so I'll address them together. Some PDF documents do get rather large, some outrageously so. However, PDF documents can and should be authored to be as light as possible, so while it may be that a 300 page report is large no matter what an author does, PDF documents in general need not be bloated in size and authors who are tending to their work can easily avoid this. Adobe Acrobat also offers a batch process which can watch a specific folder and when PDF documents are added there it can take the steps to reduce the file size automatically if desired. Others have commented on the convenience of PDF documents for users also, so at a minimum offering a PDF document for some documents can be viewed as helping some users.

Back to the main question: Does replacing PDF documents with HTML documents increase web traffic? I don't know the answer, but I am certain that the answer is not as simple as a quick look at the server log data. There are complicated questions to be asked:

1) were the PDF documents that were replaced built as tagged PDF documents to maximize their accessibility?
2) How much of the additional traffic was bots? Give a recent study on the amount of internet traffic that is non-human (http://www.itproportal.com/2012/03/14/51-internet-traffic-non-human/#ixzzlp7FFrR84) and the broad introduction of new pages and links I wonder whether a percentage that is greater than the 51% cited in the Incapsula report because spiders and other bots may be exploring the new pages. (disclaimer - I haven't read the Incapsula report in any depth and can't say whether it is accurate or whether there are reasons that it may not be similar in the Victoria DPI case).
3) What methodology for measuring the results was used? If it is just hits on a page, it might make sense that going from 6000 pages and 9000 PDF files (15K URI) to 22000 HTML pages would result in a larger number of hits. Some quick "back of the envelope" math shows that there are now 1.47 times the number of indexable pages now and the number of hits has risen by a factor of 1.38.
4) Is it possible to review a collection of 10-20 representative PDF documents and the HTML analogs for them and see how the stats for those specific documents break down? That would be interesting.

I'm sure that there are other interesting questions, but that's a start.

To the question of whether you should take this approach and replace your PDF documents with HTML files - maybe you should, but I'm not convinced that the hit count is a reason that you can depend on. If you are hearing from your users that they prefer HTML files over PDF, then offer HTML. If you are finding that maintenance is easier with another format, use that other format. There are many reasons why you may want to offer HTML documents, but you should also recognize that there are valid reasons for using PDF documents, and if you find that these reasons make sense for you, use PDF. But, when you do use PDF, follow best practices for making sure the PDF documents meet WCAG 2.0.

Thanks,
AWK

Andrew Kirkpatrick
Group Product Manager, Accessibility
Adobe Systems

akirkpat@adobe.com
http://twitter.com/awkawk
http://blogs.adobe.com/accessibility

-----Original Message-----
From: Wayne Dick [mailto:wayneedick@gmail.com]
Sent: Sunday, March 25, 2012 2:54 PM
To: David Woolley
Cc: w3c-wai-ig@w3.org
Subject: Re: Removing PDFs and accessibility

Just making an attempt to move away from PDF as a system to view web content is great move forward. It recognizes the issue that PDF is a poor online reading medium for many people with visual impairments.
Thank you Cosmic Muffin.

The primary application will be in the area of content meant for reading. When article is written in PDF it generally increases the workload for reading on line, especially for a person with low vision.
This generally involves a significant change in workload. Since most sighted people just print PDF articles, this introduces a major inequality of work for people with full sight vs. people with partial sight.

The ability to obtain high quality will be the trick. The tag spaces are not isomrphic, and tagged PDF enables meaningful text styling to be embedded in blocks of untagged data. As such I do not see a programatically determined method of translation existing. However a good heuristic will probably suffice.

Thanks for the article, good luck Victoria.

Wayne Dick

On 3/25/12, David Woolley <forums@david-woolley.me.uk> wrote:
> David Woolley wrote:
>
>>
>> Incidentally, I have often sought out PDFs because they are not
>> fragmented into pages,
>
> The big problem I often find with lots of small hyperlinked pages, on
> sites (typically governmental, or software support) that should be
> information rich, is that one ends up going round circles, never
> actually getting to the detail you want. I suspect that is often
> because that level of detail just does not exist, but unless one maps
> out the whole site and proves that you have seen all the pages, one
> can never be sure of that.
>
> A single, linearised, document makes it much easier for the reader to
> be sure that information is not present and makes it much harder for
> the author to avoid answering difficult questions by just hyperlinking
> you backwards and forwards.
>
>
>

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Australian Government

Department of Finance and Deregulation

WCAG 2.0 Reference Group Meeting Minutes

Thursday, 7 April 2011 – 09:30 to 12:30

AGIMO Level 1 Meeting Room, Minter Ellison Building, National Circuit, Canberra

Attendees

Present (in person)

- Australian Government Information Management Office: **Jacqui van Teulingen (JvT), Andrew Arch (AA)**
- Department of Broadband, Communications and the Digital Economy: **Catherine Driesen (CD), Laurel Lloyd (LL)**
- Department of Veterans' Affairs: **Jaklina Trajcevska (JT)**
- Department of Families and Housing, Community Services and Indigenous Affairs: **John Forsey (JF) and Craig Flintoff (CF)**
- Department of the Prime Minister and Cabinet: **Geoff Dibley (GD)**
- Centrelink: **Rick Maloney (RM), Richard Filing (RF)**
- Attorney General's Department: **Peter Pullicino (PP)**
- Department of Human Services: **Nick Miller (NM)**
- Australian Local Govt Association: **Monica Telesney (MT)**

Present (on phone)

- Australian Human Rights Commission: **David Mason (DM)**
- New South Wales: **Sure Shallis (SS)**
- Victoria: **Rohan Westbury (RW)**
- Queensland: **Sharon Litchfield (SL1), Sev Efstathiadis (SE)**
- South Australia: **Aron Hausler (AH)**
- Western Australia: **Stewart Luxton (SL2)**
- New Zealand: **Rowan Smith (RS)**

Apologies

- Australian Government Information Management Office: **Raven Calais**
- Attorney General's Department: **Steven Fox, John Boersig**
- Australian Human Rights Commission: **Graeme Innes**
- Australian Capital Territory: **Kerry Webb**
- Tasmania: **John Wilson**

Agenda

1. Welcome and Introductions

JvT welcomed all present and asked everyone to introduce themselves for the benefit of new participants (Andrew Arch, Monica Telesney, Jakalina Trajevski, Richard Filing, Nick Miller, Craig Flintoft, David Mason). Specifically, new participants offered the following:

- AA mentioned his previous work with the W3C, in particular mentioning the WAI-AGE project[1]
- MT mentioned her interest in social policy as well as ageing and disability
- JT mentioned an interest in online applications
- RF & NM also mentioned an interest in online applications and the problem of legacy (very old) systems
- CF is working on communications issues

2. Web Accessibility National Transition Strategy (NTS)

2.1 Results of the NTS Phase 1 Reporting

JvT ran through the report under draft highlighting that the numbers were preliminary and needed to be verified. The detailed report will be sent to agencies on completion, and the intention is that a de-personalised version of the report will be made public. JvT highlighted:

- Unprecedented response was received from FMA Act agencies (93 of 105).
- Conformance to WCAG at any level was disappointing considering the requirement for WCAG 1.0 since 2000 – less than half the agencies reported meeting WCAG 1.0; half the agencies report as 'other' (interpreted as unknown). Pleasingly, a small number of agencies reported meeting WCAG 2.0.
- There was confusion regarding the definition of "partial conformance" (which has a specific meaning under WCAG 2.0)
- Agencies reported a mixture of publishing models (even within agencies), highlighting potential governance issues and supporting the findings of the ANAO 2008 report[2].
- Agencies report a very large number of CMSs in use, with many agencies using more than one CMS. Smaller agencies reported using open source products more often than larger agencies. Agencies reported on their use of CMSs for reporting/publishing/reviewing – the lack of reviewing reported again highlights issues around governance. Agencies also reported their CMSs as 'off-the-shelf' vs. customised vs. 'built-in-house' – which provides an indication of responsibility for WCAG 2.0 conformance.
- Over 1000 applications were reported as being delivered online; many had a common theme (e.g. recruitment) and AGIMO intends to engage with vendors of popular applications on behalf of agencies.
- Agencies reported on their staff capability to conform to WCAG 2.0 in terms of skill set and training. Agencies reported 17,000 staff (excluding Defence staff) involved with web authoring

[1] http://www.w3.org/WAI/older-users/

[2] http://anao.gov.au/Publications/Audit-Reports/2008-2009/Government-Agencies-Management-of-their-Websites/Audit-brochure

and publishing. Only 250 staff were reported as having any WCAG 2.0 specific training during 2010.

- Agencies reported a number of risks in their ability to meet the NTS timeframe – the most common risks reported were:
    - Resources and staff capability
    - Skills in-house
    - 3rd-party products
    - PDF issues
    - Legacy publishing systems.

JvT called for comment:

- SL2 asked if we could cross reference the CMSs in use with the level of accessibility reported. JvT responded that the survey didn't seek that data, it only sought the CMS and the total number of sites it supports.
- SS asked if we had a list of which CMSs are conforming? JvT responded that we didn't, and that the choice of a CMS was an agency business decision. GD commented that it depended on what the CMS was doing – e.g. Drupal at the basic -level was probably conformant, but the extra modules were problematic.
- JvT commented that there was a need to review the publishing process in most agencies and that knowledge and skills of authors/publishers requires attention. Even down to the basic level of ensuring documents included semantic structure.
- SS asked if a certificate process might be appropriate considering the decrease in the number of WCAG 1.0 conforming sites, noting that sites change and an ongoing process would be required. AA commented on some European experience where evaluators in Spain and France provided dated certification that needed annual renewal (addressing the ever changing nature of websites).
- JF commented on AGIMO negotiating with bigger applications providers vs. a large number of agencies tackling them having more weight. JF also wondered if we can get some big gains from small fixes across the board in application example those based on Seibel/SAP/etc as he suspected many custom applications are built on common platforms. JvT commented that we don't know, but it presents a possibility.
- AH commented on the apparent misinterpretation by agencies of some parts of the survey, wondering if agencies would be provided with a chance to correct the record with hindsight about the survey. JvT responded that the report will go out 'as is', but repeated annually so should get more informed responses in future. She also commented that AGIMO might tighten up the questions to remove apparent ambiguities, and that we have gone back to some agencies for clarification on some aspects.

ACTION: AGIMO to provide detailed report to Reference Group members when released.

2.2 PDF Accessibility Education Sessions

JvT reported that the sessions run with Adobe in March were a resounding success with over 700 participants over the two days (four sessions). We are also recording downloads of the presentations as a measure of the success of the events. The sessions focussed on PDF, but covered the basics of creating accessible documents, e.g. semantics/colour/etc. The slides have since been published on the

Web Guide[3], though we are still awaiting the audio version. We are also hoping for an updated 'cheat sheet[4]' from Adobe incorporating Word 2010 and Acrobat 9 & 10.

SS reported that the Sydney session was also a success, but identified a need for training in other Adobe products. She collected a number of questions after the session and forwarded these to Adobe. JvT asked SS to share them with AGIMO.

ACTION: AGIMO to provide pointers to the PDF presentation material.

ACTION: NSW to share the collected PDF questions with AGIMO.

2.3 Progressing Training and Education with NTS Phase 2

JvT discussed some of the considerations for this project including:

- Possibility of online awareness material for managers, including pointers to descriptions and video of how people with disabilities use the web.
- eModules about the 'why' and the impact for technical staff – a competency test may also be desirable.
- Possibility of an RFT for training to deliver competencies and possibility of a panel of suppliers.

SS commented that NSW is considering a similar approach and offered to work collaboratively on this.

ACTION: NSW to share background of work already progressed with AGIMO.

3. Web Accessibility Communication and Collaboration

3.1 International Collaboration Program

JvT summarised AGIMO's participation:

- Currently, there is no standardisation of accessibility implementation internationally, so AGIMO is working collaboratively to develop methodologies, approaches, tools and reporting;
    - Canadian (Federal) work on conformance methodology to be evaluated
    - Ontario's (Provincial) trial of Compliance Sheriff
- Canadian Web Experience Toolkit[5]
    - Compliments the Canadian common Look and Feel standards
    - Contains a number of resources and we're considering cross-jurisdictional co-branding

ACTION: AGIMO to provide links to Canadian Web Experience Toolkit (WET).

3.2 Engaging Disability Groups and Forums

JvT reported that AGIMO is still planning to engage with a variety of groups and forums. JvT is developing a strategy that will guide engagement for the duration of the NTS.

ACTION: AGIMO to share Project Plan for NTS Engagement Strategy with members when complete.

[3] http://webguide.gov.au/accessibility-usability/accessibility/pdf-accessibility/
[4] Out-of-date Adobe cheat sheet - http://tinyurl.com/6b8u38x
[5] http://www.tbs-sct.gc.ca/clf2-nsi2/tb-bo/td-dt/wet-boew-eng.asp

4. Updates

4.1 Attorney general's Department on *Donna Jodhan vs. Attorney general of Canada*

PP spoke to the message included in the Agenda Appendix (also attached within minutes).

SL2 asked if the Appendix notes could be shared within the WA Government. JvT agreed to this request, but *stressed* that **they are for internal government use only**.

RS asked if a copy could be provided for NZ consideration.

ACTION: AGIMO to provide a copy of the Attorney General's notes on the *Donna Jodhan vs. Attorney general of Canada* to NZ.

4.2 FaHCSIA & National Disability Strategy (NDS)

JF reported on the recently published Strategy[6] and outlined the priority areas:

- Inclusive and accessible communities
- Rights protection, justice and legislation
- Economic security
- Personal and community support
- Learning and skills
- Health and wellbeing

JF reported that the NDS was signed at COAG in early 2011, and emphasises a need for online accessibility including accessibility of collaboration tools, online applications and service delivery. He emphasised the overlap between people with disabilities and the 'frail and aged' population in terms of needs and solutions.

JvT commented that one measure of the NDS success is progress with WCAG 2.0 adoption.

JF talked about the issue of convergent technologies, e.g.:

- Cinemas and captions
- Digital TV and audio descriptions/captions
- Live captioning requirements
- Social media
- Push for more in-screen Auslan

JF also reported that FOI is also a big issue – expectation is that FOI documents will be available in an accessible format. Raises the associated content authoring issues for creating accessible original documents and dealing with legacy documents.

JvT reported that DBCDE is undertaking a convergence review with Terms of Reference released recently[7]. She suggested that agencies should read and be ready to participate.

JvT also reported that the Office of the Australian Information Commissioner (OAIC) is introducing a new regime for FOI from 1st May 2011 and that AGIMO has been engaging with the OAIC around

[6] http://www.fahcsia.gov.au/sa/disability/progserv/govtint/Pages/nds.aspx
[7] http://www.dbcde.gov.au/digital_economy/convergence_review

accessibility of the Disclosure Log and also legacy documents. AGIMO is working with OAIC on a decision tree in terms of the accessibility requirements for legacy documents.

NM commented that the distinction between the Disclosure Log and released documents is unclear. JvT replied that the Disclosure Log itself must be fully accessible, but the accessibility of information released under FOI is being clarified with the definition of 'legacy' information.

4.3 Mitigation Projects

AA reported on some of the mitigation projects underway, or soon to be commenced:

- PDF accessibility education – virtually completed. Also noted that W3C have released *draft* PDF Techniques for WCAG 2.0[8] - members are encouraged to review and provide comment to the W3C.

- Spatial data – AGIMO currently preparing the Project Plan for a spatial data mitigation project, however the exact issues are unclear and AGIMO will commence defining the scope for the project with a Roundtable of the lead agencies for spatial data. Agencies likely to be included are Geoscience Australia, Office of Spatial Data Management, Centrelink / DHS and other already using myriad of geo-locator services for citizens. RS and SL2 offered to participate in any spatial data project.

- Web 2.0 issues – AGIMO also currently scoping work on Web 2.0 issues and accessibility for a mitigation project. Outcomes of the NTS Survey are likely to set the priority for mitigation projects for 2011. To commence the project AGIMO will conduct a round table with known leaders of Web 2.0 tools. SL2 also commented that WA has social media guidelines for WA Government use of Twitter and accessible versions and offered to share them.

ACTION: WA to share social media guidelines with Reference Group.

JvT reported that the Captioning project in 2010 commenced with a Roundtable with approximately 20 participants to help scope the project and ensure that all the issues were collected for consideration. JT asked if all agencies shouldn't be looking into these issues? JvT commented that yes, they should, but that some agencies, e.g. the National Museum, are ahead of the game and/or have a bigger stake in certain areas (e.g. the National Gallery is a leader around social media and is addressing the needs of people with disabilities.) She also suggested that the DBCDE Convergence Review should further inform the captioning project.

4.4 Community of Expertise

JvT suggested that any agencies that are not participating in the Community of Expertise[9] should sign up to take advantage of the discussions.

5. Other Items from Reference Group Members

JvT invited meeting participants to share anything from their agencies/jurisdictions or raise any issues they would like discussed.

[8] http://www.w3.org/WAI/GL/WCAG20-TECHS/pdf.html
[9] http://agimo.govspace.gov.au/category/accessibility/

5.1 Local Government

ALGS – MT raised the question of where local government sits in the NTS and how local government gets informed and encouraged to adopt WCAG 2.0 and embrace the NTS. She said she will provide an update to members and will review the NTS and see what can be brought back to the Reference Group from a local government perspective.

QLD – SL1 commented that Qld is getting interest from local government, especially Brisbane, but also some regional councils. Qld is hoping to engage more with Qld local government in 2011.

WA – SL2 commented that he had found a myriad of agencies dealing with local government in WA on different issues, and found it difficult to identify how to engage them.

VIC – RW said a similar problem existed in Victoria, but also that their remit was only for 'inner agencies', which misses some key agencies, and places local government even further down the priority listing.

NSW – SS commented that the recent change of government in NSW will result in many adjustments, but they are hoping to roll out information to NSW local government this year.

JvT advised that States and Territories will be kept informed of anything AGIMO does with ALGA.

MT suggested that identifying what local government knows would be a good start.

5.2 PDF Next Steps

CD asked about the next steps after the W3C PDF Techniques are finalised. JvT responded that AGMIO would review the advice regarding PDF.

RW reported that he met with Andrew Kirkpatrick (Adobe) in Melbourne recently and was advised that PDF would be completely WCAG 2.0 conforming when the techniques are finalised. JvT replied that they may be acceptable in some circumstances, but that a review would lead to updated advice.

5.3 Older Australians

DVA – JT commented that most of their work deals with older Australians and would like to be involved in anything AGIMO does in this area.

5.4 Web Applications

DHS – RF commented that the online applications space needed better definition and clarity with respect the applicability of the NTS. JvT responded that AGIMO is working on this area along with a decision tree to help guide agencies. RW advised that Victoria is taking the WAI approach – if it's browser-based, it's in scope.

NM raised the issue of measuring any improvement for authenticated applications (and for intranets and extranets). Also, asked how to get authors/developers to know about accessibility in these cases.

JvT acknowledged the issues raised regarding authenticated applications (and intranets). With regard to educating authors, JvT advised that Finance has information on its intranet for some applications, and an IT Education area and team, and would seek permission to share what Finance has for MS Word etc.

ACTION: AGIMO to seek permission to share the Finance Word accessibility notes with the Reference Group.

5.5 SharePoint

PMC – GD asked about SharePoint mitigation, considering the number of agencies that utilise SharePoint. JvT responded that AGIMO was meeting with Microsoft shortly and would be discussing this with them.

JvT notes, following the Microsoft meeting, additional information about the Australian Government use of SharePoint and its reported accessibility will be contained in the NTS Survey Report. Microsoft have provided detailed information about the accessibility of each of their SharePoint versions.

5.6 Senior Management Getting the Message

FaHCSIA – JF raised the ongoing problem of getting the accessibility message across to senior management, and that it's not just a technical issue. JF asked how to sell the message that business managers own the content and that most accessibility requirements are their responsibility. He emphasised the need to get web accessibility acknowledged at the top of the organisation.

JvT commented that there are three elements of accessibility, as proposed by Mark Stanton (WSG and Gruden Director) – awareness, education, empathy – and if we can get senior management to take notice then they can ensure the message is taken seriously by an agency. She called for any examples of success in getting the message across to senior managers.

DHS – NM mentioned the need to get accessibility considered and incorporated early in projects.

DVA – JT commented that the PDF sessions were a big win with lots of people talking about it and taking it on-board. Can we do anything similar with other aspects?

NSW – SS commented that NSW is working with the communications groups in government to circulate information via a non-technical forum. JvT commented that the Government of Ontario has reference groups for Web Managers and for Communications Managers. Jvt noted that AGIMO should include this same angle in the developing engagement strategy given Finance manages all government communications.

ACTION: Agencies and States/Territories to report on any successes they have encountered in getting the web accessibility message across to senior managers.

ACTION: AGIMO approach Finance Advertising team to develop strategy to engage with Communication Managers.

5.7 Testing Tools

RW asked if anyone was using the Rational Policy Tester[10] testing tool from IBM. NM replied that the Department of Human Services were using it and notified the group that IBM are currently promoting this and would probably be contacting us. Estimated cost of product is $100K.

5.8 State Updates on NTS

WA – SL2 asked if there were State/Territory updates on the NTS. JvT replied that States/Territories were asked several questions in late 2010 relating to their adoption of the NTS but had limited responses. She summarised the feedback already received and advised that she didn't want to report no progress as the States/Territories are active, but needed feedback from them.

[10] http://www-01.ibm.com/software/awdtools/tester/policy/accessibility/

VIC – RW advised that Victoria should have reported to the last CJCIOC meeting – he will check and provide an update.

WA – SL2 asked about the effect of the Online Communications Council being disbanded – limited effect? JvT advised that it affected the governing authority for States/Territories but as yet it is unclear how future collaborative projects would be managed. SL2 also advised that WA are 12 months behind the WCAG 2.0 adoption plan set out in the NTS. AS such their endorsement will commence on 1 July 2011 where it will be cited and noted as a commitment by the WA premier.

QLD – SL informed she was taking over from Andrew Ramsden and needed to review QLD position and would provide an updated response.

ACTION: States/Territories to provide an update to JvT on the positions in their jurisdictions.

5.9 NDS and COAG reporting

AHRC – DM suggested that the NDS will require reporting to COAG too and that the NTS will be a key activity. It provides an opportunity for people with disabilities to engage with the wider world. JF confirmed that online accessibility is one of the priorities, but how obvious it is it depends on how the priority list is presented.

Post the meeting JvT received advice that the next IDC meeting discussing progress and measurement indices for the NDS would take place in May 2011.

6. ACTIONS

Jvt summarised the list of actions:

6.1 Finance/AGIMO

- AGIMO to provide detailed Phase 1 NTS report to Reference Group members when released
- AGIMO to provide pointers to the PDF presentation material [DONE – see link in footnote 3]
- AGIMO to provide links to Canadian Web Experience Toolkit (WET) [DONE – see link in footnote 5]
- AGIMO to share Project Plan for NTS Engagement Strategy with members when complete
- AGIMO to provide a copy of the Attorney General's notes on the *Donna Jodhan vs. Attorney general of Canada* to NZ
- AGIMO to seek permission to share Finance's Word accessibility notes with the Reference Group
- AGIMO approach Finance Advertising team (Communications Advice Branch) to develop strategy to engage with Communication Managers

6.2 States/Territories

- NSW to share background of training and educations work already progressed with AGIMO
- NSW to share their collected PDF questions with AGIMO
- WA to share social media guidelines with Reference Group
- Agencies and States/Territories to report on any successes they have encountered in getting the web accessibility message across to senior managers
- States/Territories to provide an update to JvT on the positions in their jurisdictions

Bronwyn Byrnes

From: Van Teulingen, Jacqui <Jacqui.vanTeulingen@finance.gov.au>
Sent: Thursday, 16 January 2014 3:58 PM
To: Helen Potts; Graeme Innes
Cc: Arch, Andrew; Miller, Steven; Vickers, Marc
Subject: Review of the Accessibility of the Portable Document Format for People with a Disability final report [SEC=UNCLASSIFIED]
Attachments: PDF Accessibility Web Guide Update post VA review.docx; Vision Australia PDF Study 2013 for AGIMO Final - Simple Table.docx

Follow Up Flag: Follow up
Flag Status: Flagged

UNCLASSIFIED

Hi Helen & Graeme,

I trust this email find you well and ready for the 2014 onslaught!

As you know from our discussions we have been working away at a formal review of PDF and are now pleased to be able to share with you the final version of Vision Australia's 2013 Review of the Accessibility of the Portable Document Format for People with a Disability (the Report) and our current thinking.

The report was commissioned by AGIMO to understand the changes in PDF accessibility following the release of PDF Sufficient Techniques for WCAG 2.0 and the ISO PDF/UA standard. The purpose was to provide us with updated data on the ability of a PDF file to conform to WCAG 2.0, primarily as a governance issue. The approach was to determine whether a PDF document correctly created, utilising W3C PDF Techniques, could claim WCAG 2 Conformance.

The Report affirms that support for PDF documents accessed through a desktop interface is sufficient for an 'Accessibility Supported' claim. This is a plausible conclusion derived from the extensive market share of the JAWS and NVDA products (estimated at 93%); and their strong performance in testing.

However, the Report provides evidence of little to no assistive technology support for the PDF format when accessed through a mobile device – the text of the document is available, but no semantic information about the structure or layout of the document is revealed to a listener. The rapid take up and use of mobile devices (internet access via mobile devices is estimated to be at 50%), especially with screen reader users, (estimated to be around 40%) presents a new barrier not considered in our earlier PDF Accessibility study.

From these findings, AGIMO considers that the Portable Document Format in its general application to the web environment cannot claim WCAG 2 conformance. Until assistive technologies (screen readers) can provide the required technical support for the semantic elements of PDFs in the mobile environment our position should remain, but with clarification of the 'mobile' element. AGIMO appreciates that agencies could make their own format determinations, when consideration is given to the document, purpose and audience; however we would need to make all agencies aware of the current limitations for PDF accessibility on mobile devices though updated guidance.

In terms of comparison, Vision Australia also indicate that Microsoft Office DOÇ files are not supported by assistive technology on mobile platforms either, so it is prudent to provide advice to agencies on the issue of mobile accessibility of government publications. In addition you are probably aware that other formats such as Flash, are also now unlikely to meet WCAG 2 conformance in respect to mobile access especially Apple (iOS) devices.

In line with the continued take up of mobile technology AGIMO proposes:

1. a joint statement be made (AGCIO and ADDC) on the AGIMIO blog noting that (accessible) PDF is the current preferred format for documents intended for a desk based access environment, but simultaneously acknowledge that HTML is the only format capable of full WCAG 2.0 conformance in light of the 'accessibility support' requirement; and
2. to encourage agencies to consider the reader requirements of their audience and, where necessary, provide alternative accessible versions as proposed in the **attached** draft PDF Accessibility Web Guide update; and
3. that new guidance be developed explaining mobile accessibility issues pertaining to documents and encouraging agencies to consider the ePUB format for future publishing, requirements.

This is in line with our pragmatic approach to accessibility and will enable user choice and assist the government to achieve the digital by default targets set out in the eGovernment and Digital Economy policy.

It should be noted that AGIMO is concurrently drafting a Digital Publishing Strategy and Digital Design Guide to underpin the eGovernment and Digital Economy policy, but these items are not scheduled for release until later in the year. This broader publishing program will expand on digital publishing formats for the future.

We would appreciate AHRC's views on AGIMO's conclusions and proposal going forward and we welcome an opportunity to discuss it. I will contact you again in a week so we can set up a mutual discussion time.

Thanks and regards

Jacqui

Jacqui van Teulingen | Director
Australian Government Information Management Office
Web Policy Team
Department of Finance
T: +61 2 6215 1508 | **M**: +61 411 205 489 | **E**: Jacqui.vanteulingen@finance.gov.au
A: 25 National Circuit, Forrest, ACT 2603
✉: John Gorton Building, King Edward Terrace, PARKES ACT 2600
AGIMO Blog agimo.govspace.gov.au

UNCLASSIFIED

vision australia

blindness and low vision services

W3C MEMBER

Digital Access at Vision Australia

2013 Review of the Accessibility of the Portable Document Format for People with a Disability

Department of Finance, Australian Government Information Management Office

Date: December 2013

Prepared for:

Australian Government Information Management Office
Department of Finance
John Gorton Building
King Edward Terrace, Parkes, ACT 2600

Contact Details

Leona Zumbo

Digital Accessibility Consultant
P: 02 9334 3522
E: leona.zumbo@visionaustralia.org

Neil King

National Manager Digital Access
P: 02 9334 3547
M: 0438 511 761
E: neil.king@visionaustralia.org

Registered Office

Vision Australia
454 Glenferrie Road
Kooyong
Victoria 3144

Mailing Address

Vision Australia
4 Mitchell Street
Enfield
NSW 2136

ABN: 67 108 391 831
ACN: 108 391 831

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Purpose

The *Australian Government's Web Accessibility National Transition Strategy* (NTS) requires all Australian Government websites, and information published on them, to achieve conformance to World Wide Web Consortium's (W3C) Web Content Accessibility Guidelines (WCAG) version 2.0 Level AA by the end of 2014. In relation to documents published in the Portable Document Format (PDF), the current practice to achieve compliance with the NTS is to provide an alternative WCAG 2.0[i] Level AA compliant version of the PDF, often produced as the authoritative document.

The position relating to the publication of documents in the Portable Document Format was influenced by the findings of the 2010 *Australian Government's study into the Accessibility of the Portable Document Format for people with a disability*[ii]. The study looked at the accessibility of the Portable Document Format when accessed by commonly used assistive technologies in conjunction with the adaptive strategies used by people with a disability. The study identified there was insufficient evidence to prove that PDFs could conform to the WCAG 2.0 standard. The study concluded that "until further data is available on the characteristics of an accessible PDF file and there are Sufficient Techniques available to support the conformance of the PDF technology to WCAG 2.0, the Australian Government position recommending that alternative file formats be provided whenever PDF files are used should remain unchanged". The Australian Human Rights Commission's WWW Advisory Notes[iii] also recommended organisations "make the content available in at least one additional format and in a manner that incorporates principles of accessible document design".

In January 2012, the W3C released "Sufficient Techniques for PDF[iv]" under WCAG 2.0. These techniques are supported with a comprehensive test suite of working examples. This means that PDF files are now able to be assessed for conformance against WCAG 2.0. In August 2012 PDF/UA was released as ISO Standard 14829-1[v], which assists vendors creating PDF software and assistive technologies in applying the same set of technical principles in the development of their products and services.

In light of the release of the PDF Sufficient Techniques for WCAG 2.0 and PDF/UA as ISO standard 14829-1, the Australian Government Information Management Office (AGIMO)commissioned Digital Access at Vision Australia to review the technical capability of the most commonly used desktop and mobile screen readers in an Australian context against applicable WCAG 2.0 Success Criteria. For comparative purposes, the scope of the study remained the same as in 2010, with scanned PDF files, interactive forms, SmartForms, media rich content and dynamic content excluded from consideration.

The Australian Government recognises that the uptake of mobile devices has significantly increased since the 2010 study; for this reason the 2013 study was extended to include a review of the Portable Document Format when viewed on the iOS 7 and Android 4.3 Jelly Bean platforms.

The findings from this research are intended to inform the Australian Government in reviewing its policy position on the use of the Portable Document Format.

[i] World Wide Web Consortium, 2008, *Web Content Accessibility Guidelines (WCAG) 2.0*, viewed 3 July 2013, http://www.w3.org/TR/WCAG20/

[ii] Australian Government Information Management Office, 2010, *Australian Government's study into the Accessibility of the Portable Document Format for people with a disability*, viewed 8 July 2013, http://www.finance.gov.au/publications/pdf-accessibility-study/

[iii] AHRC, *World Wide Web Access: Disability Discrimination Act Advisory Notes ver 4.0 (2010)*, Viewed 4 November 2013, www.humanrights.gov.au/world-wide-web-access-disability-discrimination-act-advisory-notes-ver-40-2010#pdf

[iv] World Wide Web Consortium, 2013, *PDF Techniques for WCAG 2.0*, viewed 3 July 2013, http://www.w3.org/TR/WCAG20-TECHS/pdf.html

[v] SAI Global, 2012, *ISO 14289-1:2012 Document management applications – Electronic document file format enhancement for accessibility – Part 1: Use of ISO 32000-1 (PDF/UA-1)*

Summary

The objective of this review was to assess the technical capability of the most commonly used screen readers, in an Australian context, against the W3C documented techniques for the creation of WCAG 2.0 compliant PDF files. The 2010 test suite provided by Adobe did not cover all the relevant Success Criteria of WCAG 2.0. This review used the comprehensive WCAG 2.0 test suite that applies to all applicable Success Criteria, validating conformance by assessing each screen reader against the PDF test suite (example files). With the inclusion of these testable resources for WCAG 2.0, it can be determined if the Portable Document Format is an 'Accessibility Supported Technology[vi]' in the Australian context.

The review identified four screen readers on the desktop and two on mobile platforms that, when used in conjunction with the leading PDF readers, accurately reflect the most common interaction preferences of the blind community in Australia; these are outlined in Table 1.

Table 1. Screen reader support for WCAG 2.0 PDF test suites in 2013

Screen Reader	Estimated Usage	Sufficient	Partially Sufficient	Not Sufficient
JAWS	82% desktop use	v.14		
NVDA	11% desktop use	v.2013		
Window-Eyes	4% desktop use		v.8.2	
VoiceOver (Mac OS X)	3% desktop use			v.10.8
VoiceOver	99% mobile use			iOS v.7
TalkBack	1% mobile use			Android v.4.3

Table notes: Three levels are used to describe the technical capability of the screen readers against the PDF test suites: Sufficient: Provides technical capability that enables the assistive technology to interact with PDF files; Partially Sufficient: There are some technical capabilities using the assistive technology, but also potential issues that may impact upon the interaction with a PDF file; and Not Sufficient: Provides inadequate technical capability for the assistive technology to interact with PDF files as opposed to just accessing the text.

The desktop assessment identified that the current versions of JAWS and NVDA (combined market share of 92%) were able to comply with all WCAG 2.0 Success Criteria except '3.2.3 Consistent Navigation'. In the Portable Document Format headers and footers are rendered as artefacts with no associated tag, but as this information is available elsewhere in a document this would not ordinarily cause the end user any issue when interacting with a document. The level of WCAG 2.0 compliance when assessing the test suites with Window-Eyes with Adobe Reader, and VoiceOver with Preview was much lower, which reflects the situation reported in 2010.

The mobile assessment concluded that the support for the Portable Document Format by user agents on mobile devices is still far behind the support offered by their desktop equivalents.

The 2013 review also assessed the technical capabilities using the most commonly used or previous versions of the desktop four screen readers to identify if the support significantly differed. The previous and current versions displayed similar results, though support has positively increased in all of the current versions.

As the Adobe test suites used in the 2010 study did not provide a comprehensive assessment against applicable WCAG 2.0 Success Criteria, a direct comparison could not be made. However, the results from both the study and the review demonstrate a consistently high level of technical capability for the JAWS screen reader, and increased capability for the current version of NVDA.

[vi] http://www.w3.org/TR/WCAG20/#accessibility-supporteddef

Scope of review

In light of the release of the PDF Sufficient Techniques for WCAG 2.0 and PDF/UA as ISO standard 14829-1 conformance, the Australian Government required a review of the technical capability of the most commonly used desktop and mobile screen readers in the Australian context. The findings of this review are intended to inform the policy position on digital publishing formats – to determine if the Portable Document Format can be considered an accessibility supported technology. As the current position was reaffirmed with the findings of the 2010 study, it was imperative that the overall scope of review remained similar:

- Assess the most commonly used user agents in an Australian context (screen readers and PDF readers) that support interaction on desktop based systems.
- The PDF test suite must display the characteristics of a form, long document, short document and brochure ware document, and exclude dynamic functionality or media rich content.

The Australian Government also recognises that the uptake of mobile and tablet devices has significantly increased since the 2010 study; as such the scope was expanded to include the two most popular viewers for portable devices in the review.

Screen Readers

Table 2. The following four desktop and two mobile screen readers were identified as the most commonly used screen readers in Australia as indicated by their estimated market share.

Screen Reader	Versions	Platform	Estimated Percentage of Users	Estimated number of Users*
JAWS	11 – 14	Desktop	82%	5,000
NVDA	2012 – 2013	Desktop	11%	700
Window-Eyes	7.5 – 8.2	Desktop	4%	250
VoiceOver (Mac OS X)	10.6 – 10.8	Desktop	3%	200
VoiceOver	iOS 7	Mobile	99%	4,400
TalkBack	Android 4.3 (Jelly Bean)	Mobile	1%	30

Table notes: The number of users is an informed estimation and based upon statistical data. These numbers could be expected to underrepresent actual usage.

Operating System and Viewer Application

As in 2010, the WCAG 2.0 PDF test suits were viewed using the most commonly used PDF reader for the operating system.

Table 3. Test suite testing environment

Screen Reader	Operating System	PDF Reader
JAWS 11 - 14	Windows 7	Adobe Reader XI
NVDA 2012 - 2013	Windows 7	Adobe Reader XI
Window-Eyes 7.5 - 8.2	Windows 7	Adobe Reader XI
VoiceOver 10.6 - 10.8 (Mac OS X)	Snow Leopard (10.6) - Mountain Lion (10.8)	Preview (10.6 - 10.8)
VoiceOver	iOS 7	iBooks (iOS 7)
TalkBack	Android 4.3 (Jelly Bean)	Adobe Reader mobile 10.6.1

WCAG 2.0 Success Criteria

The objective of the study was to establish the technical capability, in the context of WCAG 2.0, for screen readers to interact with the Portable Document Format. Therefore, WCAG 2.0 Success Criteria were excluded from the study if their conformance requirement was satisfied by one of the behaviours below:

- **Adobe Reader UI:** Controlled by the PDF reader user interface (UI)
- **Content:** Capability exists, but a content issue controlled by the author of the document
- **Media rich content:** Out of scope
- **Dynamic content:** Out of scope
- **Not Applicable:** Does not apply to the Portable Document Format

19 of the 38 combined WCAG 2.0 Level A and AA Success Criteria were deemed 'out of scope' for the study as identified in Table 4.

Table 4. Status of WCAG 2.0 Success Criteria in test suite

WCAG 2.0 Guideline	Status	Rational
1.1.1 Non-text Content	Included	Supported
1.2.1 Audio-only and Video-only (Prerecorded)	Excluded	Media rich content
1.2.2 Captions (Prerecorded)	Excluded	Media rich content
1.2.3 Audio Description or Media Alternative (Prerecorded)	Excluded	Media rich content
1.2.4 Captions (Live)	Excluded	Media rich content

WCAG 2.0 Guideline	Status	Rational
1.2.5 Audio Description (Prerecorded)	Excluded	Media rich content
1.3.1 Info and Relationships	Included	Supported
1.3.2 Meaningful Sequence	Included	Supported
1.3.3 Sensory Characteristics	Excluded	Content
1.4.1 Use of Colour	Excluded	Content
1.4.2 Audio Control	Excluded	Content
1.4.3 Contrast (Minimum)	Excluded	Reader UI
1.4.4 Resize text	Excluded	Reader UI
1.4.5 Images of Text	Included	Supported
2.1.1 Keyboard	Included	Supported
2.1.2 No Keyboard Trap	Included	Supported
2.2.1 Timing Adjustable	Excluded	Dynamic content
2.2.2 Pause, Stop, Hide	Excluded	Dynamic content
2.3.1 Three Flashes or Below Threshold	Excluded	Dynamic content
2.4.1 Bypass Blocks	Included	Supported
2.4.2 Page Titled	Included	Supported
2.4.3 Focus Order	Included	Supported
2.4.4 Link Purpose (In Context)	Included	Supported
2.4.5 Multiple Ways	Included	Supported
2.4.6 Headings and Labels	Excluded	Content
2.4.7 Focus Visible	Excluded	Reader UI
3.1.1 Language of Page	Included	Supported
3.2.1 On Focus	Excluded	Dynamic content
3.1.2 Language of Parts	Included	Supported
3.2.2 On Input	Included	Supported
3.2.3 Consistent Navigation	Included	Supported
3.2.4 Consistent Identification	Excluded	Content
3.3.1 Error Identification	Included	Supported

WCAG 2.0 Guideline	Status	Rational
3.3.2 Labels or Instructions	Included	Supported
3.3.3 Error Suggestion	Included	Supported
3.3.4 Error Prevention (Legal, Financial, Data)	Excluded	Dynamic content
4.1.1 Parsing	Excluded	Not Applicable
4.1.2 Name, Role, Value	Included	Supported

Methodology

Screen Reader Market Share

To determine the most commonly used screen readers from an Australian context, and the most commonly used versions thereof, two activities in line with the approach followed in the 2010 study were undertaken.

Vendors

Vendors of the screen readers included in the 2010 study were contacted to establish their estimations of current levels of use within Australia. The organisations that provided feedback were Quantum Technology (on behalf of Freedom Scientific), NV-Access, GW Micro and Apple.

As each vendor records different statistics (seats, licences, downloads, average number of users per day) or provides their products to market via different channels (multiple resellers, free downloadable licences – full or demo, bundled with operating system) a definitive answer as to the number of users cannot be determined for any screen reader. The vendors or their representatives provided estimation based upon the statistics[1] available.

Vision Australia: Equipment Solutions

To further substantiate the statistics provided by the vendors the data was cross referenced with the number of enquiries received by Vision Australia's Equipment Solutions help desk in relation to specific screen readers for the financial year 2012 - 2013[2].

Interviews with Equipment Solutions were also conducted to ascertain the most commonly used versions of each screen reader based upon their experiences as technology trainers and dealings with help desk enquiries.

Mobile Screen Reader Market Share

The Australian market share is based on statistics produced from Vision Australia's Equipment Solutions department and international studies on mobile screen reader usage and smartphone penetration. These figures reflect market share for the usage of the screen readers only on portable devices rather than other functionality available to low vision users. The screen readers are used for general navigation purposes rather than for specifically accessing the Portable Document Format.

Vendors

Vendors could not approximate the number of screen reader users due to the functionality being built into the device (iPhone or Samsung Galaxy Nexus), i.e. the software is not a separate licence where downloads or purchases can be recorded.

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[1] Refer to Appendix B Table 1.17 Statistics provided by screen reader vendors.

[2] Refer to Appendix B Table 1.18 Statistics provided by Equipment Solutions Vision Australia.

Vision Australia: Equipment Solutions

To determine the most commonly used mobile screen readers from an Australian context, data from Vision Australia's Equipment Solutions help desk was analysed to extract statistics on specific mobile screen reader enquiries for the financial year 2012 - 2013.

Statistical usage

Vision Australia used the following formula to approximate the Australian market share for mobile screen readers.

Total number of Australian users of screen readers (6,150) **multiplied by** the WebAIM National statistic[vii] on mobile screen reader usage (71.6 %)[3].

Equals total number of Australian users of mobile screen readers (4,403).

To disseminate the total market into VoiceOver and TalkBack mobile screen reader users, Vision Australia used statistics extracted from the Equipment Solutions help desk database to calculate market share. The data was extracted for the financial year 2013.

Total number of enquiries regarding VoiceOver iOS (982) **divided by** the total number of enquiries regarding mobile screen readers (987) **multiplied by** 100.

Equals total percentage of VoiceOver iOS users in Australia (99.5%).

Total number of enquiries regarding TalkBack Android (5) **divided by** the total number of enquiries regarding mobile screen readers (987) **multiplied by** 100.

Equals total percentage of TalkBack Android users in Australia (0.5%).

Vision Australia's subject matter experts suggest that the Android OS is preferred by low vision users due to its magnification capabilities rather than users that require screen reader capacity, hence the low adoption rate when compared to that of iOS. Android TalkBack has been included in the study as there is a small proportion of the Australian market currently using this mobile screen reader.

Technical Testing

The WCAG 2.0 PDF Sufficient Techniques and accompanying test suite was created by W3C members and validated by the W3C Web Accessibility Initiative (WAI). The test suite includes 20 example files that relate to screen readers[4]. The test suite maps to the 23 PDF Sufficient Techniques, replicating specific behaviours or elements of a PDF file that require testing. The test suite validates the successful application of each Sufficient Technique, supporting the conformance requirement of the related Success Criterion.

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[3] Statistics sourced from Our Mobile Planet by Google ranks Australia as 6th on an international scale of smartphone market penetration. Therefore Vision Australia believes that the international figure of mobile screen reader usage is a fair representation of the Australian market.

[4] Digital Access created new test files where that provided on the PDF Techniques for WCAG 2.0 website were not constructed according to its associated PDF sufficient technique. 7 out of 20 test files were updated and have been submitted to W3C.

One General Sufficient Technique was also identified as applicable to the assessment of the Portable Document Format, and the test file reading-order.pdf was used to validate conformance; '2.1.2 No Keyboard Trap'.

The default settings for verbosity and keyboard commands were used for each of the assessments, unless otherwise directed by the Sufficient Technique.

The testing process replicated the methodology applied to the 2010 PDF study:

- Test file opened in the accompanying PDF reader (Adobe Reader or Preview)
- Screen reader attempts to satisfy the requirements of the Sufficient Technique using the test file
- Outcome and screen reader behaviour are recorded

[vii] WebAIM (Web Accessibility in Mind), 2012, *Screen Reader Survey #4 Results*, viewed 8 Nov 2013, http://webaim.org/projects/screenreadersurvey4/

Evidence

Of the 38 Success Criteria (25 Level A and 13 Level AA) only 19 were applicable to the scope of this study as the others are supported by factors not related to the Portable Document Format. For example, the provision of sufficient colour contrast (1.4.3 Contrast (Minimum)) is at the discretion of the author of the PDF file.

Table 5. Screen reader results against WCAG 2.0 Success Criteria

Screen Reader	Version	Supported	Not Supported	Not Applicable	Total
JAWS	14	37 (18/19)	1 (1/19)	19	38
JAWS	11	36 (17/19)	2 (2/19)	19	38
NVDA	2013	37 (18/19)	1 (1/19)	19	38
NVDA	2012	36 (17/19)	2 (2/19)	19	38
Window-Eyes	8.2	30 (11/19)	8 (8/19)	19	38
Window-Eyes	7.5	30 (11/19)	8 (8/19)	19	38
VoiceOver (Mac OS X)	10.8	23 (4/19)	15 (15/19)	19	38
VoiceOver (Mac OS X)	10.6	23 (4/19)	15 (15/19)	19	38
VoiceOver (iOS)	7	23 (4/19)	15 (15/19)	19	38
TalkBack (Android)	4.3 Jelly Bean	0 (0/19)	19 (19/19)	19	38

Screen Reader Support for WCAG 2.0

All screen readers failed Success Criterion '3.2.3 Consistent Navigation' as Adobe automatically renders headers and footers as an artefact. An artefact element is implemented into a PDF file without an associated tag and is therefore not detectable by current screen readers.

Note: In general, the information contained within a header and footer is also available from the title page of the document. Also, JAWS and NVDA announces the page numbers within the PDF therefore the impact of this issue on the end user is marginal.

JAWS 11-14

JAWS 11 demonstrated a high level of technical support against WCAG 2.0. All Success Criteria were satisfied with the exception of '1.3.2 Consistent Navigation' and '1.3.1 Info and Relationships' (36/38). When JAWS 11 was released the setting to detect structured table headers only, and so provide support for nested tables, was not implemented.

The ability to correctly detect nested table headers is supported in JAWS 14 and resulted in a very high level of technical support (37/38).

NVDA 2012 – 2013

NVDA 2012 provided support for all Success Criteria with the exception of '1.3.2 Consistent Navigation' and '1.3.1 Info and Relationships' (36/38). As NVDA 2012 does not detect table headers, there is no support for tables.

The ability to detect table headers is supported in NVDA 2013 and resulted in a very high level of technical support (37/38).

Window-Eyes 7.5 – 8.2

Window-Eyes only provided minimal technical support against core WCAG 2.0 Success Criteria (30/38).

The basic structure of the PDF is not announced by the screen reader. Specifically headings, lists, information about form labels and controls, and pagination are not detected. There is no support for bookmarks or a table of contents so no method to skip to different sections of the PDF document. A keyboard trap occurs when Window-Eyes does not anchor onto the document when forms mode is exited. The accent of a foreign language is also not announced.

Consequently, the following Success Criteria were not satisfied:

1.3.1 Info and Relationships

2.1.2 Keyboard Trap

2.4.1 Bypass Blocks

2.4.5 Multiple Ways

3.1.2 Language of Parts

3.2.3 Consistent Navigation

3.3.2 Labels and Instructions

4.1.2 Name, Role, Value

VoiceOver Mac OS X 10.6 – 10.8

VoiceOver provided poor technical support against core WCAG 2.0 Success Criteria (23/38).

Structural markup and tags are not identified when using VoiceOver with Preview leading to significant accessibility issues, including the inability of VoiceOver to read alternative descriptions for images or identify and enable navigation of headings and tables. VoiceOver was also unable to access and interact with form elements correctly, identify error messages or identify the language of the whole document or sections within it. This finding is consistent with the 2010 PDF study.

The following Success Criteria were not satisfied:

1.1.1 Non-text Content

1.3.1 Info and Relationships

2.1.1 Keyboard

2.4.1 Bypass Blocks

2.4.2 Page Titled

2.4.3 Focus Order

2.4.4 Link Purpose (In Context)

2.4.5 Multiple Ways

3.1.2 Language of Parts

3.2.2 On Input

3.2.3 Consistent Navigation

3.3.1 Error Identification

3.3.2 Language of Parts

3.3.3 Error Suggestion

4.1.2 Name, Role, Value

VoiceOver iOS 7

VoiceOver iOS 7 did not provide technical support against WCAG 2.0 (23/38).

VoiceOver iOS 7 provides the same level of support as its desktop equivalent (VoiceOver 10.6 - 10.8) with the exception of pagination.

The page numbering displayed in the PDF reader (iBooks) page controls do not match the page numbering of the document. For example, the document page numbering is "i", "ii", "iii", "1", and the page controls are displayed as "1", "2", "3", "4". Thus, VoiceOver iOS 7 announces the page controls as "1", "2", "3", "4" rather than "i", "ii", "iii", "1".

VoiceOver iOS 7 fails the same Success Criteria as Voiceover Mac OS X 10.8.

TalkBack Android 4.3 Jelly Bean

TalkBack did not provide any technical support against WCAG 2.0 (0/38).

TalkBack did not recognise the PDF in Adobe Reader for mobile 10.6.1. The functions of Adobe Reader UI are announced as "button [number]".

Findings

Table 6. Full test results against WCAG 2.0 Success Criteria and Test Suite for Desktop Screen Readers commonly used in Australia

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
1.1.1	alt-entry-to-an-image.pdf	PDF 1: Applying text alternatives to images with the Alt entry in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Image alt must be read by speech AT
1.1.1	decorative-image.pdf	PDF 4: Hiding decorative images with the Artefact tag in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	No indication of the decorative image should be announced
1.3.1	table-example-repaired-new-test-file.pdf	PDF 6: Using table elements for table markup in PDF Documents	Supported	Supported	Supported	Not Supported	Supported	Supported	Not Supported	Not Supported	Name, value, and role is available for table

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
1.3.1	cooking.pdf	PDF 9: Providing headings by marking content with heading tags in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Headings are identified by speech AT
1.3.1	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Text field controls are correctly identified by labels
1.3.1	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Name, value, and role is available for links

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
1.3.1	form.pdf	PDF 12: Providing name, role, value information for form fields in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Name, value, and role is available for form controls (text field and checkbox)
1.3.1	page-numbers.pdf	PDF 17: Specifying consistent page numbering for PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Supported	Not Supported	Pagination is identified in "Page Thumbnails"
1.3.1	table-new-test-file.pdf	PDF 20: Using Adobe Acrobat Pro's Table Editor to repair mistagged tables	Supported	Not Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Name, value, and role is available for nested table
1.3.1	lists.pdf	PDF 21: Using List tags for lists in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Name, value, and role is available for lists

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WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
1.3.2	reading-order-2cols-word.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Document is read in a logical order
1.4.5	ocr-example-tagged.pdf	PDF 7: Performing OCR on a scanned PDF document to provide actual text	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Visually rendered text is presented in such a manner that it can be perceived without its visual presentation interfering with its readability
2.1.1	reading-order.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Form controls are keyboard accessible

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
2.1.1	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Links controls are keyboard accessible
2.1.1	form-fields-keybd.pdf	PDF 23: Providing interactive form controls in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Form controls are keyboard accessible
2.1.2	reading-order.pdf	N/A	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Supported	Supported	No keyboard trap
2.4.1	cooking.pdf	PDF 9: Providing headings by marking content with heading tags in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Headings allow skipping around within document

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
2.4.2	title-bar.pdf	PDF 18: Specifying the document title using the Title entry in the document information dictionary of a PDF document	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	PDF document is titled
2.4.3	reading-order.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Document text and control order is correct when tabbing in sequential document
2.4.4	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Name, value, and role is available for links

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
2.4.4	link-text-oo-new-test-file.pdf	PDF 13: Providing replacement text using the /Alt entry for links in PDF documents	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Alternate text is detected for links
2.4.5	bookmarks.pdf	PDF 2: Creating bookmarks in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Bookmarks allow skipping around via keyboard
3.1.1	language-en.pdf	PDF 16: Setting the default language using the /Lang entry in the document catalog of a PDF document	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	The language of the document is identified

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
3.1.2	lang-of-phrase-new-test-file.pdf	PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	The language of part of the document is identified
3.1.2	lang-of-phrase-new-test-file.pdf	PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	The language of part of the document is identified
3.2.2	submit-button-js-new-test-file.pdf	PDF 15: Providing submit buttons with the submit-form action in PDF forms	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Name, value, and role is available for submit button

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
3.2.3	headers-footers-word.pdf	PDF 14: Providing running headers and footers in PDF documents	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Header and Footer artefact is detected
3.2.3	page-numbers.pdf	PDF 17: Specifying consistent page numbering for PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Supported	Not Supported	Pagination is identified in "Page Thumbnails"
3.3.1	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
3.3.1	required-fields-new-test-file.pdf	PDF 22: Indicating when user input falls outside the required format or values in PDF forms	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Input error is identified and automatically changed
3.3.2	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected
3.3.2	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Text field controls are correctly identified by labels

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
3.3.3	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected
3.3.3	required-fields-new-test-file.pdf	PDF 22: Indicating when user input falls outside the required format or values in PDF forms	Supported	Supported	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Error message "Invalid date/time: Please ensure that the date time exists." is detected
4.1.2	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Name, value, and role is available for form controls (text field, checkbox and button)

WCAG 2.0 Success Criteria	Test File	PDF Technique	JAWS 14	JAWS 11	NVDA 2013	NVDA 2012	Window-Eyes 8.2	Window-Eyes 7.5	Voice Over 10.8 (Mac OS X)	Voice Over 10.6 (Mac OS X)	Desired Results
4.1.2	form.pdf	PDF 12: Providing name, role, value information for form fields in PDF documents	Supported	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported	Name, value, and role is available for form controls (text field and checkbox)

Table 7. Full test results against WCAG 2.0 Success Criteria and Test Suite for Mobile Screen Readers commonly used in Australia

WCAG 2.0 Success Criteria	Test File	PDF Technique	Voice Over 10.6 (iOS 7)	TalkBack (Android 4.3)	Desired Results
1.1.1	alt-entry-to-an-image.pdf	PDF 1: Applying text alternatives to images with the Alt entry in PDF documents	Not Supported	Not Supported	Image alt must be read by speech AT
1.1.1	decorative-image.pdf	PDF 4: Hiding decorative images with the Artefact tag in PDF documents	Supported	Not Supported	No indication of the decorative image should be announced
1.3.1	table-example-repaired-new-test-file.pdf	PDF 6: Using table elements for table markup in PDF Documents	Not Supported	Not Supported	Name, value, and role is available for table
1.3.1	cooking.pdf	PDF 9: Providing headings by marking content with heading tags in PDF documents	Not Supported	Not Supported	Headings are identified by speech AT
1.3.1	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Not Supported	Not Supported	Text field controls are correctly identified by labels
1.3.1	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Not Supported	Not Supported	Name, value, and role is available for links
1.3.1	form.pdf	PDF 12: Providing name, role, value information for form fields in PDF documents	Not Supported	Not Supported	Name, value, and role is available for form controls (text field and checkbox)
1.3.1	page-numbers.pdf	PDF 17: Specifying consistent page numbering for PDF documents	Not Supported	Not Supported	Pagination is identified in "Page Thumbnails"
1.3.1	table-new-test-file.pdf	PDF 20: Using Adobe Acrobat Pro's Table Editor to repair mistagged tables	Not Supported	Not Supported	Name, value, and role is available for nested table

WCAG 2.0 Success Criteria	Test File	PDF Technique	Voice Over 10.6 (iOS 7)	TalkBack (Android 4.3)	Desired Results
1.3.1	lists.pdf	PDF 21: Using List tags for lists in PDF documents	Not Supported	Not Supported	Name, value, and role is available for lists
1.3.2	reading-order-2cols-word.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Supported	Not Supported	Document is read in a logical order
1.4.5	ocr-example-tagged.pdf	PDF 7: Performing OCR on a scanned PDF document to provide actual text	Supported	Not Supported	Visually rendered text is presented in such a manner that it can be perceived without its visual presentation interfering with its readability
2.1.1	reading-order.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Not Supported	Not Supported	Form controls are keyboard accessible
2.1.1	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Not Supported	Not Supported	Links controls are keyboard accessible
2.1.1	form-fields-keybd.pdf	PDF 23: Providing interactive form controls in PDF documents	Not Supported	Not Supported	Form controls are keyboard accessible
2.1.2	reading-order.pdf	N/A	Supported	Not Supported	No keyboard trap
2.4.1	cooking.pdf	PDF 9: Providing headings by marking content with heading tags in PDF documents	Not Supported	Not Supported	Headings allow skipping around within document
2.4.2	title-bar.pdf	PDF 18: Specifying the document title using the Title entry in the document information dictionary of a PDF document	Not Supported	Not Supported	PDF document is titled

WCAG 2.0 Success Criteria	Test File	PDF Technique	Voice Over 10.6 (iOS 7)	TalkBack (Android 4.3)	Desired Results
2.4.3	reading-order.pdf	PDF 3: Ensuring correct tab and reading order in PDF documents	Not Supported	Not Supported	Document text and control order is correct when tabbing in sequential document
2.4.4	links-new-test-file.pdf	PDF 11: Providing links and link text using the /Link structure element in PDF documents	Not Supported	Not Supported	Name, value, and role is available for links
2.4.4	link-text-oo-new-test-file.pdf	PDF 13: Providing replacement text using the /Alt entry for links in PDF documents	Not Supported	Not Supported	Alternate text is detected for links
2.4.5	bookmarks.pdf	PDF 2: Creating bookmarks in PDF documents	Not Supported	Not Supported	Bookmarks allow skipping around via keyboard
3.1.1	language-en.pdf	PDF 16: Setting the default language using the /Lang entry in the document catalog of a PDF document	Supported	Not Supported	The language of the document is identified
3.1.2	lang-of-phrase-new-test-file.pdf	PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents	Not Supported	Not Supported	The language of part of the document is identified
3.1.2	lang-of-phrase-new-test-file.pdf	PDF 19: Specifying the language for a passage or phrase with the Lang entry in PDF documents	Not Supported	Not Supported	The language of part of the document is identified
3.2.2	submit-button-js-new-test-file.pdf	PDF 15: Providing submit buttons with the submit-form action in PDF forms	Not Supported	Not Supported	Name, value, and role is available for submit button
3.2.3	headers-footers-word.pdf	PDF 14: Providing running headers and footers in PDF documents	Not Supported	Not Supported	Header and Footer artefact is detected
3.2.3	page-numbers.pdf	PDF 17: Specifying consistent page numbering for PDF documents	Not Supported	Not Supported	Pagination is identified in "Page Thumbnails"

WCAG 2.0 Success Criteria	Test File	PDF Technique	Voice Over 10.6 (iOS 7)	TalkBack (Android 4.3)	Desired Results
3.3.1	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected
3.3.1	required-fields-new-test-file.pdf	PDF 22: Indicating when user input falls outside the required format or values in PDF forms	Not Supported	Not Supported	Input error is identified and automatically changed
3.3.2	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected
3.3.2	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Not Supported	Not Supported	Text field controls are correctly identified by labels
3.3.3	required-fields.pdf	PDF 5: Indicating required form controls in PDF forms	Not Supported	Not Supported	Error message telling users more than one required form field has not been entered is detected
3.3.3	required-fields-new-test-file.pdf	PDF 22: Indicating when user input falls outside the required format or values in PDF forms	Not Supported	Not Supported	Error message "Invalid date/time: Please ensure that the date time exists." is detected
4.1.2	form.pdf	PDF 10: Providing labels for interactive form controls in PDF documents	Not Supported	Not Supported	Name, value, and role is available for form controls (text field, checkbox and button)
4.1.2	form.pdf	PDF 12: Providing name, role, value information for form fields in PDF documents	Not Supported	Not Supported	Name, value, and role is available for form controls (text field and checkbox)

Appendix A

Table 8. JAWS 14

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 10	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 17	Pass	JAWS reads all pages within Adobe Reader right panel as "i" Page numbering can be accessed via "Go to page" Ctrl + Shift + N	Passed as page numbering can be accessed via "Go to page" Short-cut keystroke: Ctrl + Shift + N.
1.3.1 Info and Relationships	A	PDF 20	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Pass	As expected	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Pass	As expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
2.1.1 Keyboard	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	As expected	
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Pass	As expected	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	As expected	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Pass	JAWS does not anchor to location selected in bookmark panel. However, strictly against the WCAG 2.0 criteria this passes because: The "Table of Contents" is supported Search feature in JAWS and Reader	Fails PDF Sufficient Technique but passes WCAG 2.0 Success Criteria.
2.4.7 Focus Visible	AA	N/A	Pass	In standard and high contrast mode.	
3.1.1 Language of page	A	PDF 16	Pass	JAWS announces content as follows: This is page "i" This is page "ie" This is page "ee"	
3.1.1 Language of page	A	PDF 19	Pass	As expected	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	JAWS does not read headers and footers by simply using the down key and there is no hotkey to access this information within the "JAWS commands for Acrobat/Reader" dialog.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag. However, the information contained within this element is also available from the title page of the document. Also, JAWS 14 provides functionality to announce the page number. Therefore the impact of this issue on the end user is marginal.
3.2.3 Consistent Navigation	AA	PDF 17	Pass	JAWS reads all pages within Adobe Reader right panel as "i" Page numbering can be accessed via "Go to page" Ctrl + Shift + N	
3.3.1 Error Identification	A	PDF 5	Pass	An error message telling users more than one required form field has not been entered appears and is detected by the screen reader.	
3.3.1 Error Identification	A	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Pass	An error message telling users more than one required form field has not been entered appears and is detected by the screen reader.	
3.3.2 Labels or Instructions	A	PDF 10	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 5	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Pass	As expected	
4.1.2 Name, Role, Value	A	PDF 12	Pass	As expected	

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Table 9. JAWS 11

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 10	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 17	Pass	Page numbering can be accessed via "Go to page" Ctrl + Shift + N	Passed as page numbering can be accessed via "Go to page". Short-cut keystroke: Ctrl + Shift + N
1.3.1 Info and Relationships	A	PDF 20	Fail	After JAWS announces "Results" it announces "Blank" only and focus is thrown back to the first table header, "Disability Category". "Accuracy" and "Time to Complete" are eventually announced at the end of the table header repetition. The screen reader does not read primary and secondary tables well.	A new test file was created. Refer to Appendix C. The ability to detect structured table headers only is not supported in JAWS 11.
1.3.1 Info and Relationships	A	PDF 21	Pass	As expected	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
2.1.1 Keyboard	A	PDF 3	Pass	As expected	
2.1.1 Keyboard	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	As expected	
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Pass	As expected	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	As expected	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Pass	JAWS does not anchor to location selected in bookmark panel. However strictly against the WCAG 2.0 criteria this passes because: The "Table of Contents" is supported. Search feature in JAWS and Reader	Fails PDF Sufficient Technique but passes WCAG 2.0 Success Criteria.
3.1.1 Language of page	A	PDF 16	Pass	JAWS announces content as follows: This is page "i" This is page "ie" This is page "ee"	
3.1.1 Language of page	A	PDF 19	Pass	As expected	
3.1.2 Language of parts	AA	PDF 19	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	JAWS does not read headers and footers by simply using the down key and there is no hotkey to access this information within the "JAWS commands for Acrobat/Reader" dialog.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag. However, the information contained within this element is also available from the title page of the document. Also, JAWS 11 provides functionality to announce the page number. Therefore the impact of this issue on the end user is marginal.
3.2.3 Consistent Navigation	AA	PDF 17	Pass	JAWS reads all pages within Adobe Reader right panel as "i" Page numbering can be accessed via "Go to page" Ctrl + Shift + N	
3.3.1 Error Identification	A	PDF 5	Pass	An error message telling users more than one required form field has not been entered appears and is detected by the screen reader.	
3.3.1 Error Identification	A	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Pass	An error message telling users more than one required form field has not been entered appears and is detected by the screen reader.	
3.3.2 Labels or Instructions	A	PDF 10	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 5	Pass	An error message telling users more than one required form field has not been entered appears and is detected by the screen reader.	
3.3.3 Error Suggestion	AA	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Pass	As expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
4.1.2 Name, Role, Value	A	PDF 12	Pass	As expected	

Table 10. NVDA 2013

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 10	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 11	Pass	The system does not stop on the link within a paragraph. However, the links can be activated in "link list" mode.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 17	Pass	NVDA does not announce the pages within the Adobe Acrobat left tool bar at all. Go to page functionality is not available in NVDA 2013 and 2012. Although when each page is read the page number is announced before the content. For example, "Page i" [Text] This is page i, "Page Roman 2" [Text] This is page Roman 2". The page numbering is consistent as required. Note: You cannot use NVDA find to jump to the page (Ctrl + Insert + F)	Passed as page numbering is announced by the screen reader when each page is encountered. The page numbering is consistent as required.
1.3.1 Info and Relationships	A	PDF 20	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Pass	As expected	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Pass	As expected	
2.1.1 Keyboard	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	As expected	
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Pass	As expected	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	As expected	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Pass	NVDA anchors to content in main page when Bookmark is selected	
3.1.1 Language of page	A	PDF 16	Pass	NVDA announces content as follows: This is page "i" This is page "Roman 2" This is page "Roman 3"	
3.1.1 Language of page	A	PDF 19	Pass	Retested in new PDF test file.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Pass	Retested in new PDF test file.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.2.3 Consistent Navigation	AA	PDF 14	Fail	NVDA does not read headers and footers.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag. However, the information contained within this element is also available from the title page of the document. Also, NVDA 2013 announces the page number when each page is encountered. Therefore the impact of this issue on the end user is marginal.
3.2.3 Consistent Navigation	AA	PDF 17	Pass	As expected	
3.3.1 Error Identification	A	PDF 5	Pass	As expected	
3.3.1 Error Identification	A	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Pass	As expected	
3.3.2 Labels or Instructions	A	PDF 10	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 5	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Pass	As expected	
4.1.2 Name, Role, Value	A	PDF 12	Pass	As expected	

Table 11. NVDA 2012

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Fail	Table headers are not associated with cell data when the hot key is selected.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 10	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 11	Pass	The system does not stop on the link within a paragraph. However, the links can be activated in "link list" mode.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 17	Pass	NVDA does not announce the pages within the Adobe Acrobat left tool bar at all. Go to page functionality is not available in NVDA 2013 and 2012. Although when each page is read the page number is announced before the content. For example, "Page i" [Text] This is page i, "Page Roman 2" [Text] This is page Roman 2". The page numbering is consistent as required. Note: You cannot use NVDA find to jump to the page (Ctrl + Insert + F).	Passed as page numbering is announced by the screen reader when each page is encountered. The page numbering is consistent as required.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.3.1 Info and Relationships	A	PDF 20	Fail	The headers are announced in a logical sequence however "Accuracy" is read as "Column 2 Row 1" and "Time to complete" is read as "Row 2". This means that the 'true' row 2 is read as row 3.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Pass	As expected	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Pass	As expected	
2.1.1 Keyboard	A	PDF 11	Pass	The system does not stop on the link within a paragraph. However, the links can be activated in "link list" mode.	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	As expected	
2.1.2 No Keyboard Trap	A	N/A	Pass	NVDA + Space exits forms mode and user can exit the form.	
2.4.1 Bypass Blocks	A	PDF 9	Pass	As expected	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	The focus order is correct.	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	The system does no stop on the link within a paragraph. However, the links can be activated in "link list" mode.	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
2.4.5 Multiple ways	AA	PDF 2	Pass	NVDA anchors to content in main page when Bookmark is selected	
3.1.1 Language of page	A	PDF 16	Pass	NVDA announces content as follows: This is page "i" This is page "Roman 2" This is page "Roman 3"	Passed as page numbering is announced by the screen reader when each page is encountered. The page numbering is consistent as required.
3.1.1 Language of page	A	PDF 19	Pass	Retested in new PDF test file.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Pass	Retested in new PDF test file.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	NVDA does not read headers and footers.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag. However, the information contained within this element is also available from the title page of the document. Also, NVDA 2012 announces the page number when each page is encountered. Therefore the impact of this issue on the end user is marginal.
3.2.3 Consistent Navigation	AA	PDF 17	Pass	As expected	
3.3.1 Error Identification	A	PDF 5	Pass	An error message telling users "more than one required form field has not been entered" appears and is detected by the screen reader.	
3.3.1 Error Identification	A	PDF 22	Pass	As expected. Date automatically changes to required format.	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
3.3.2 Labels or Instructions	A	PDF 5	Pass	An error message telling users "more than one required form field has not been entered" appears and is detected by the screen reader.	
3.3.2 Labels or Instructions	A	PDF 10	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 5	Pass	An error message telling users "more than one required form field has not been entered" appears and is detected by the screen reader.	
3.3.3 Error Suggestion	AA	PDF 22	Pass	As expected. NVDA detects and reads the alert message "Invalid date/time: Please ensure that the date time exists."	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Pass	As expected	
4.1.2 Name, Role, Value	A	PDF 12	Pass	As expected	

Table 12. Window –Eyes 8.2

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	Headings are not detected by Window-Eyes.	
1.3.1 Info and Relationships	A	PDF 10	Fail	All labels except for the "JAWS user" are detected. Form controls can be accessed once the Enter key has been pressed (forms mode in version 7.5). "Forms Interaction" (Control + Slash) does not allow the user to access the form controls.	Form controls can only be accessed by selecting the "enter" key. This is entering "forms mode" in version 7.5.
1.3.1 Info and Relationships	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	Window-Eyes does not announce that the checkbox is checked once the user has selected the "space bar" and vice versa. Also, the tool tip assigned to the checkbox is not announced by the screen reader.	The screen reader does announce that the checkbox is unchecked on initial focus.
1.3.1 Info and Relationships	A	PDF 17	Fail	Window-Eyes does not announce the page numbers in the left panel. There is no "Go to page" functionality. Page numbers are not announced when page is encountered.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.3.1 Info and Relationships	A	PDF 20	Fail	Table headers are read in a logical manner. For example, "Results", "Accuracy", and "Time to Complete". However the "Accuracy" and "Time to Complete" headers are ignored when the hotkey to hear the cell with its header is activated. Also the 2nd last column of data cells is read with the "Results" header only. The last column of data cells is read with no table header.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	Lists are not detected by Window-Eyes	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Pass	As expected	
2.1.1 Keyboard	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	As expected	
2.1.2 No Keyboard Trap	A	N/A	Fail	Once "forms mode (version 7.5)" has been inactivated (by pressing the enter key) the system does not detect the document. "Forms mode" is not required when interacting with a form within a website.	More info: Keyboard trap occurs in reading-order.pdf. User should be able to toggle "forms mode" tc exit the form and read the rest of the document. The user cannot read the rest of the document.
2.4.1 Bypass Blocks	A	PDF 9	Fail	Window-Eyes 8.2 does not detect heading structure.	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	As expected	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	The table of content links are read with the (.....) as "period", one at a time. The user would have to hear a lot of the term "period" before they reach the page number. When a link in the table of contents is selected it does not anchor to the appropriate place in the document. Instead on selecting the down key the next link within the table of contents is read. The screen reader does not anchor to the bookmark location once F6 takes the user back to the main page.	
3.1.1 Language of page	A	PDF 16	Pass	Window-Eyes announces content as follows: This is page "i" This is page "ie" This is page "ee"	
3.1.1 Language of page	A	PDF 19	Fail	Window-Eyes does not announce a Spanish accent.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	Window-Eyes does not announce a Spanish accent.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	Window-Eyes does not read headers and footers.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag.
3.2.3 Consistent Navigation	AA	PDF 17	Fail	Window-Eyes does not announce the page numbers in the left panel. There is no "Go to page" functionality.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
3.3.1 Error Identification	A	PDF 5	Pass	An error message telling users "more than one required form field has not been entered" appears and is detected by the screen reader.	
3.3.1 Error Identification	A	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Fail	Window-Eyes does not announce that the checkbox is checked once the user has selected the "space bar" and vice versa. Also, the tool tip assigned to the checkbox is not announced by the screen reader.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	The label for the checkbox "JAWS user" is not detected.	
3.3.3 Error Suggestion	A	PDF 5	Pass	An error message telling users "more than one required form field has not been entered" appears and is detected by the screen reader.	
3.3.3 Error Suggestion	A	PDF 22	Pass	Form field auto corrects as expected.	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Fail	Window-Eyes does not announce that the checkbox is checked once the user has selected the "space bar" and vice versa. Also, the tool tip assigned to the checkbox is not announced by the screen reader.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	Window-Eyes does not announce that the checkbox is checked once the user has selected the "space bar" and vice versa. Also, the tool tip assigned to the checkbox is not announced by the screen reader.	

Table 13. Window-Eyes 7.5

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.1.1 Non-text Content	A	PDF 1	Pass	As expected	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	Headings are not detected by Window-Eyes.	
1.3.1 Info and Relationships	A	PDF 10	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	All labels except for the "JAWS user" are detected. Form controls can be accessed once the Enter key has been pressed (forms mode in version 7.5). "Forms Interaction" (Control + Slash) does not allow the user to access the form controls.
1.3.1 Info and Relationships	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	
1.3.1 Info and Relationships	A	PDF 17	Fail	Window-Eyes does not announce the page numbers in the left panel. There is no "Go to page" functionality. Page numbers are not announced when page is encountered.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
1.3.1 Info and Relationships	A	PDF 20	Fail	Table headers are read without any redundant content and in a logical manner. For example, "Results", "Accuracy", and "Time to Complete". However the "Accuracy" and "Time to Complete" headers are ignored when the hotkey to hear the cell with its header is activated. Also the 2nd last column of data cells is read with the "Results" header only. The last column of data cells is read with no header.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	Lists are not detected by Window-Eyes.	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Pass	As expected	
2.1.1 Keyboard	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Pass	Form is keyboard accessible.	
2.1.2 No Keyboard Trap	A	N/A	Fail	Once "forms mode (version 7.5)" has been inactivated (by pressing the enter key) the system does not detect the document. "Forms mode" is not required when interacting with a form within a website.	More info: Keyboard trap occurs in reading-order.pdf. User should be able to toggle "forms mode" to exit the form and read the rest of the document. The user cannot read the rest of the document.
2.4.1 Bypass Blocks	A	PDF 9	Fail	Headings are not detected by Window-Eyes.	
2.4.2 Page Titled	A	PDF 18	Pass	As expected	
2.4.3 Focus Order	A	PDF 3	Pass	As expected	
2.4.4 Link Purpose (In Context)	A	PDF 11	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
2.4.4 Link Purpose (In Context)	A	PDF 13	Pass	As expected	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	The table of content links are read with the (.....) as "period", one at a time. The user would have to hear a lot of the term "period" before they reach the page number. Bookmarks are accessible however the screen reader reads the page title "Bookmarks.pdf-Adobe Reader" over and over again unless the user selects the down key. Then it will announce the bookmark for example, "Header Four" and start reading the page title "Bookmarks.pdf-Adobe Reader" over and over again until the next book mark is selected etc. Links within the "Table of Contents" do not activate. The bookmark is visually anchored to however when the screen reader anchors back to the document it reads from the top of the page not from where the bookmark has been selected.	
3.1.1 Language of page	A	PDF 16	Pass	Window-Eyes announces content as follows: This is page "i" This is page "ie" This is page "ee"	
3.1.1 Language of page	A	PDF 19	Fail	Window-Eyes does not announce Spanish accent.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	Window-Eyes does not announce Spanish accent.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Pass	As expected	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comments
3.2.3 Consistent Navigation	AA	PDF 14	Fail	Window-Eyes does not read headers and footers.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag.
3.2.3 Consistent Navigation	AA	PDF 17	Fail	Window-Eyes does not announce the page numbers in the left panel. There is no "Go to page" functionality.	
3.3.1 Error Identification	A	PDF 5	Pass	As expected	
3.3.1 Error Identification	A	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	
3.3.3 Error Suggestion	AA	PDF 5	Pass	As expected	
3.3.3 Error Suggestion	AA	PDF 22	Pass	As expected	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	Checkbox tool tip is not detected. Current state of checkbox is announced initially however after checkbox is checked the screen reader does not announce checkbox current state.	

Table 14. VoiceOver 10.8

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Fail	VoiceOver does not detect the image.	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Fail	Table structure is not detected. All cells and header data is read as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	Headings structure is not detected. All text read as plain text.	
1.3.1 Info and Relationships	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
1.3.1 Info and Relationships	A	PDF 11	Fail	Link structure is not detected. All text is announced as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	
1.3.1 Info and Relationships	A	PDF 17	Pass	VoiceOver reads the same page numbering in the viewer page controls as in the document.	
1.3.1 Info and Relationships	A	PDF 20	Fail	Table not detected by VoiceOver. "Table not found". Header content announced in illogical order. "Results", "Ballots", "Incomplete/", "Terminated", "Disability", Category".	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	List structure is not detected by VoiceOver.	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As Expected	
1.4.5 Images of text	AA	PDF 7	Pass	As Expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
2.1.1 Keyboard	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline".	
2.1.1 Keyboard	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Fail	Form controls do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Checkbox is not anchored on, detected or announced by screen reader.	
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Fail	VoiceOver does not detect headings.	
2.4.2 Page Titled	A	PDF 18	Fail	Title is rendered and read as "ZqVsOL-title-bar.pdf"	
2.4.3 Focus Order	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Therefore "Focus Order" cannot be tested.	
2.4.4 Link Purpose (In Context)	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Fail	Alternate text for link is not announced.	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	Voiceover does not anchor to the bookmark selected in Previews "Table of Contents" when the user toggles from the right panel to the main document.	
3.1.1 Language of page	A	PDF 16	Pass	VoiceOver reads as: This is page "i" This is page "i, i" This is page "i, i, i"	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.1.1 Language of page	A	PDF 19	Fail	VoiceOver does not announce Spanish accent.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	VoiceOver does not announce Spanish accent.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Fail	VoiceOver does not detect the button at all.	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	Headers and footer text is detected as plain text. The header and footer structure is not communicated to the user.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag.
3.2.3 Consistent Navigation	AA	PDF 17	Pass	VoiceOver reads the same page numbering in the viewer page controls as in the document.	
3.3.1 Error Identification	A	PDF 5	Fail	Submit button is not anchored to, detected, or announced by VoiceOver. Error message cannot be activated.	
3.3.1 Error Identification	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
3.3.3 Error Suggestion	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	
3.3.3 Error Suggestion	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
4.1.2 Name, Role, Value	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	

Table 15. VoiceOver 10.6

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Fail	VoiceOver does not detect the image.	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Fail	Table structure is not detected. All cells and header data is read as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	Headings structure is not detected. All text is read as plain text.	
1.3.1 Info and Relationships	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
1.3.1 Info and Relationships	A	PDF 11	Fail	Link structure is not detected. All text is announced as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	
1.3.1 Info and Relationships	A	PDF 17	Fail	VoiceOver reads page "i" as page-numbers.pdf image one of four "ii" is read as two image two of four "iii" is read as three image three of four	
1.3.1 Info and Relationships	A	PDF 20	Fail	Table not detected by VoiceOver. "Table not found". Header content announced in illogical order.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	List structure is not detected by VoiceOver.	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline".	
2.1.1 Keyboard	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Fail	Form controls do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Checkbox is not anchored on, detected or announced by screen reader.	
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Fail	VoiceOver does not detect headings.	
2.4.2 Page Titled	A	PDF 18	Fail	Title is rendered and read as "title-bar.pdf"	
2.4.3 Focus Order	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Therefore "Focus Order" cannot be tested.	
2.4.4 Link Purpose (In Context)	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Fail	Alternate text for link is not announced.	A A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	The system does not anchor to the bookmark selected in Previews "bookmarks" when VoiceOver toggles from the right panel to the main document.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.1.1 Language of page	A	PDF 16	Pass	VoiceOver reads as: This is page "i" This is page "two" This is page "three"	
3.1.1 Language of page	A	PDF 19	Fail	VoiceOver does not read in Spanish accent.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	VoiceOver does not read in Spanish accent.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Fail	VoiceOver does not detect the button at all.	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	Headers and footer text is detected as plain text. The header and footer structure is not communicated to the user.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag.
3.2.3 Consistent Navigation	AA	PDF 17	Fail	VoiceOver reads viewer page controls as: "language-en.pdf image one of four" "two image two of four" "three image three of four" "one image four of four"	
3.3.1 Error Identification	A	PDF 5	Fail	Submit button is not anchored to, detected, or announced by VoiceOver. Error message cannot be activated.	
3.3.1 Error Identification	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.3.2 Labels or Instructions	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
3.3.3 Error Suggestion	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	
3.3.3 Error Suggestion	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	

Table 16. VoiceOver iOS 7

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Fail	VoiceOver does not detect the image.	
1.1.1 Non-text Content	A	PDF 4	Pass	As expected	
1.3.1 Info and Relationships	A	PDF 6	Fail	Table structure is not detected. All cells and header data is read as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	Headings structure is not detected. All text is read as plain text.	
1.3.1 Info and Relationships	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
1.3.1 Info and Relationships	A	PDF 11	Fail	Link structure is not detected. All text is announced as plain text.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.3.1 Info and Relationships	A	PDF 17	Fail	When navigating through the document using "two finger swipe down" VoiceOver reads : page "i" as page "i" page "ii" is read as page "ii" page "iii" is read as page "ii" page "1" is read as page "1" However when the "Page User" is used to navigate pages within the document VoiceOver reads: page "i" as page "1" page "ii" is read as page "2" page "iii" is read as page "3" page "1" is read as page "4"	
1.3.1 Info and Relationships	A	PDF 20	Fail	Table not detected by VoiceOver. "Table not found". Header content announced in illogical order.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	List structure is not detected by VoiceOver.	
1.3.2 Meaningful Sequence	A	PDF 3	Pass	As expected	
1.4.5 Images of text	AA	PDF 7	Pass	As expected	
2.1.1 Keyboard	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline".	
2.1.1 Keyboard	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Fail	Form controls do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Checkbox is not anchored on, detected or announced by screen reader.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
2.1.2 No Keyboard Trap	A	N/A	Pass	As expected	
2.4.1 Bypass Blocks	A	PDF 9	Fail	VoiceOver does not detect headings.	
2.4.2 Page Titled	A	PDF 18	Fail	Title is rendered and read as "title-bar.pdf"	
2.4.3 Focus Order	A	PDF 3	Fail	Textboxes do not render in preview. The cursor cannot anchor on the section read as "underline, underline, underline". Therefore "Focus Order" cannot be tested.	
2.4.4 Link Purpose (In Context)	A	PDF 11	Fail	Link structure is not detected by VoiceOver.	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Fail	Alternate text for link is not announced.	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	The system does not detect any bookmarks.	
3.1.1 Language of page	A	PDF 16	Pass	VoiceOver reads as: This is page "i" This is page "ii" This is page "iii"	
3.1.1 Language of page	A	PDF 19	Fail	VoiceOver does not read in Spanish accent.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	VoiceOver does not read in Spanish accent.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Fail	Submit button is not rendered.	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.2.3 Consistent Navigation	AA	PDF 14	Fail	Headers and footer text is detected as plain text. The header and footer structure is not communicated to the user.	Headers and footers are automatically implemented as an Artifact by Adobe. Thus the element has no tag.
3.2.3 Consistent Navigation	AA	PDF 17	Fail	When navigating through the document using "two finger swipe down" VoiceOver reads : page "i" as page "i" page "ii" is read as page "ii" page "iii" is read as page "ii" page "1" is read as page "1" However when the "Page User" is used to navigate pages within the document VoiceOver reads: page "i" as page "1" page "ii" is read as page "2" page "iii" is read as page "3" page "1" is read as page "4"	
3.3.1 Error Identification	A	PDF 5	Fail	Submit button is not rendered.	
3.3.1 Error Identification	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.
3.3.2 Labels or Instructions	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore there is no tooltip. The textual labels are read as plain text.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.3.3 Error Suggestion	A	PDF 5	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	
3.3.3 Error Suggestion	A	PDF 22	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore users cannot access the form controls.	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	Form controls are not rendered or detected by VoiceOver in preview. Therefore name, role, value are not detected by VoiceOver.	

Table 17. TalkBack Android 4.3 (Jelly Bean)

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
1.1.1 Non-text Content	A	PDF 1	Fail	PDF is inaccessible. No element is detected.	
1.1.1 Non-text Content	A	PDF 4	Fail	PDF is inaccessible. No element is detected.	
1.3.1 Info and Relationships	A	PDF 6	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 9	Fail	PDF is inaccessible. No element is detected.	
1.3.1 Info and Relationships	A	PDF 10	Fail	PDF is inaccessible. No element is detected.	
1.3.1 Info and Relationships	A	PDF 11	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 12	Fail	PDF is inaccessible. No element is detected.	
1.3.1 Info and Relationships	A	PDF 17	Fail	PDF is inaccessible. No element is detected.	
1.3.1 Info and Relationships	A	PDF 20	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
1.3.1 Info and Relationships	A	PDF 21	Fail	PDF is inaccessible. No element is detected.	
1.3.2 Meaningful Sequence	A	PDF 3	Fail	PDF is inaccessible. No element is detected.	
1.4.5 Images of text	AA	PDF 7	Fail	PDF is inaccessible. No element is detected.	
2.1.1 Keyboard	A	PDF 3	Fail	PDF is inaccessible. No element is detected.	
2.1.1 Keyboard	A	PDF 11	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
2.1.1 Keyboard	A	PDF 23	Fail	PDF is inaccessible. No element is detected.	

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
2.1.2 No Keyboard Trap	A	N/A	Fail	PDF is inaccessible. No element is detected.	
2.4.1 Bypass Blocks	A	PDF 9	Fail	PDF is inaccessible. No element is detected.	
2.4.2 Page Titled	A	PDF 18	Fail	PDF is inaccessible. No element is detected.	
2.4.3 Focus Order	A	PDF 3	Fail	PDF is inaccessible. No element is detected.	
2.4.4 Link Purpose (In Context)	A	PDF 11	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
2.4.4 Link Purpose (In Context)	A	PDF 13	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
2.4.5 Multiple ways	AA	PDF 2	Fail	PDF is inaccessible. No element is detected.	
3.1.1 Language of page	A	PDF 16	Fail	PDF is inaccessible. No element is detected.	
3.1.1 Language of page	A	PDF 19	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
3.1.2 Language of parts	AA	PDF 19	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
3.2.2 On Input	A	PDF 15	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
3.2.3 Consistent Navigation	AA	PDF 14	Fail	PDF is inaccessible. No element is detected.	
3.2.3 Consistent Navigation	AA	PDF 17	Fail	PDF is inaccessible. No element is detected.	
3.3.1 Error Identification	A	PDF 5	Fail	PDF is inaccessible. No element is detected.	
3.3.1 Error Identification	A	PDF 22	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.

Success Criteria	Level	Techniques	Pass / Fail	Behaviour	Comment
3.3.2 Labels or Instructions	A	PDF 5	Fail	PDF is inaccessible. No element is detected.	
3.3.2 Labels or Instructions	A	PDF 10	Fail	PDF is inaccessible. No element is detected.	
3.3.3 Error Suggestion	A	PDF 5	Fail	PDF is inaccessible. No element is detected.	
3.3.3 Error Suggestion	A	PDF 22	Fail	PDF is inaccessible. No element is detected.	A new test file was created. Refer to Appendix C.
4.1.2 Name, Role, Value	A	PDF 10	Fail	PDF is inaccessible. No element is detected.	
4.1.2 Name, Role, Value	A	PDF 12	Fail	PDF is inaccessible. No element is detected.	

Appendix B

Table 18. Statistics provided by screen reader vendors

Vendor	Screen Reader	Licenses / Seats or Downloads
Freedom Scientific	JAWS 11 - 14	Approximately 5000 – 6000 seats Note: numerous 'seats' are provided by multi user licenses.
NV Access	NVDA 2012 - 2013	On average 169 Australians using NVDA daily. 838 downloads of the latest release from Australia. Note: this number does not discount multiple downloads and doesn't account for anyone who got the software via another means.
GW Micro	Window Eyes 7.5 – 8.2	GW Micro could not provide the number of Window-Eyes copies in use.
Apple	VoiceOver 10.6 – 10.8	There is no public information available as VoiceOver is a built in system feature. I.e. It is difficult to know whether or not an individual turns VoiceOver on and uses it.
Apple	VoiceOver iOS	There is no public information available as VoiceOver is a built in system feature. I.e. It is difficult to know whether or not an individual turns VoiceOver on and uses it.
Eyes-Free Google	TalkBack Android	There is no public information available as TalkBack is a built in system feature. I.e. It is difficult to know whether or not an individual turns TalkBack on and uses it.

Table 19. Statistics provided by Equipment Solutions Vision Australia

Screen Reader	Enquiries in FY13
JAWS 11 - 14	451
NVDA 2012 - 2013	173
Window Eyes 7.5 – 8.2	21
VoiceOver 10.6 – 10.8 Mac OS X	53

Screen Reader	Enquiries in FY13
VoiceOver iOS	982
TalkBack Android	4

Appendix C

Table 20. Test Files used per WCAG 2.0 Success Criteria and PDF Technique.

Success Criteria	Level	Techniques	Filename	Test File Created by W3C or Vision Australia
1.1.1 Non-text Content	A	PDF 1	alt-entry-to-an-image.pdf	W3C
1.1.1 Non-text Content	A	PDF 4	decorative-image.pdf	W3C
1.3.1 Info and Relationships	A	PDF 6	table-example-repaired-new-test-file.pdf	Vision Australia
1.3.1 Info and Relationships	A	PDF 9	cooking.pdf	W3C
1.3.1 Info and Relationships	A	PDF 10	form.pdf	W3C
1.3.1 Info and Relationships	A	PDF 11	links-new-test-file.pdf	Vision Australia
1.3.1 Info and Relationships	A	PDF 12	form.pdf	W3C
1.3.1 Info and Relationships	A	PDF 17	page-numbers.pdf	W3C
1.3.1 Info and Relationships	A	PDF 20	table-new-test-file.pdf	Vision Australia
1.3.1 Info and Relationships	A	PDF 21	lists.pdf	W3C
1.3.2 Meaningful Sequence	A	PDF 3	reading-order-2cols-word.pdf	W3C
1.4.5 Images of text	AA	PDF 7	ocr-example-tagged.pdf	W3C
2.1.1 Keyboard	A	PDF 3	reading-order.pdf	W3C
2.1.1 Keyboard	A	PDF 11	links-new-test-file.pdf	Vision Australia
2.1.1 Keyboard	A	PDF 23	form-fields-keybd.pdf	W3C
2.1.2 No Keyboard Trap	A	N/A	reading-order.pdf	W3C

Success Criteria	Level	Techniques	Filename	Test File Created by W3C or Vision Australia
2.4.1 Bypass Blocks	A	PDF 9	cooking.pdf	W3C
2.4.2 Page Titled	A	PDF 18	title-bar.pdf	W3C
2.4.3 Focus Order	A	PDF 3	reading-order.pdf	W3C
2.4.4 Link Purpose (In Context)	A	PDF 11	links-new-test-file.pdf	Vision Australia
2.4.4 Link Purpose (In Context)	A	PDF 13	link-text-oo-new-test-file.pdf	Vision Australia
2.4.5 Multiple ways	AA	PDF 2	bookmarks.pdf	W3C
3.1.1 Language of page	A	PDF 16	language-en.pdf	W3C
3.1.1 Language of page	A	PDF 19	lang-of-phrase-new-test-file.pdf	Vision Australia
3.1.2 Language of parts	AA	PDF 19	lang-of-phrase-new-test-file.pdf	Vision Australia
3.2.2 On Input	A	PDF 15	submit-button-js-new-test-file.pdf	Vision Australia
3.2.3 Consistent Navigation	AA	PDF 14	headers-footers-word.pdf	W3C
3.2.3 Consistent Navigation	AA	PDF 17	page-numbers.pdf	W3C
3.3.1 Error Identification	A	PDF 5	required-fields.pdf	W3C
3.3.1 Error Identification	A	PDF 22	required-fields-new-test-file.pdf	Vision Australia
3.3.2 Labels or Instructions	A	PDF 5	required-fields.pdf	W3C
3.3.2 Labels or Instructions	A	PDF 10	form.pdf	W3C
3.3.3 Error Suggestion	A	PDF 5	required-fields.pdf	W3C
3.3.3 Error Suggestion	A	PDF 22	required-fields-new-test-file.pdf	Vision Australia

Success Criteria	Level	Techniques	Filename	Test File Created by W3C or Vision Australia
4.1.2 Name, Role, Value	A	PDF 10	form.pdf	W3C
4.1.2 Name, Role, Value	A	PDF 12	form.pdf	W3C

Bronwyn Byrnes

From: Van Teulingen, Jacqui <Jacqui.vanTeulingen@finance.gov.au>
Sent: Monday, 25 February 2013 3:03 PM
To: Graeme Innes
Cc: Arch, Andrew; Miller, Steven; Siqi Wen; Helen Potts
Subject: RE: AGIMO / Vision Australia - PDF Accessibility Review [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi Graeme,

How funny, faulty grapevines.

Yes we are progressing and will shortly issue the SoR to VA for their formal quote. They want us to do more user testing but we cannot afford an extra $10k, so we have specified a very strict test process as outlined and we think this will be sufficient to give us an outcome from which we can base a policy discussion. So if there is anything that you think we are not addressing which may be crucial, please let us know now so we can include it. I expect that Bruce will have some input from the VA side of things, so that is a bit comforting.

I will work with Siqi to arrange a discussion with you in a few week time. We will not likely have the outcome of the PDF testing by then but there are other issues we need to discuss. I will forward you an agenda and some background notes.

Regards,
Jacqui

UNCLASSIFIED

From: Graeme Innes [mailto:Graeme.Innes@humanrights.gov.au]
Sent: Monday, 25 February 2013 2:29 PM
To: Van Teulingen, Jacqui
Cc: Arch, Andrew; Miller, Steven; Siqi Wen; Helen Potts
Subject: RE: AGIMO / Vision Australia - PDF Accessibility Review [SEC=UNCLASSIFIED]

Hi Jacquie.

I featr that the grape vine is a bit faulty. We thought you were going to do this work, and have been waiting to talk with you about the results.

I would value the chance of catching up when you are in Sydney, and will ask my EA Siqi Wen to arrange a time on the days you suggest.

Best regards

Graeme

Graeme Innes AM
Disability Discrimination Commissioner

Australian Human Rights Commission

Level 3, 175 Pitt Street, Sydney NSW 2000
GPO Box 5218, Sydney NSW 2001
T +61 2 9284 9692 **Complaints infoline** 1300 656 419
E graeme.innes@humanrights.gov.au **W** www.humanrights.gov.au

Human rights: everyone, everywhere, everyday

Twenty Years: Twenty Stories
celebrating 20 years of the Disability Discrimination Act.

From: Van Teulingen, Jacqui [mailto:Jacqui.vanTeulingen@finance.gov.au]
Sent: Monday, 25 February 2013 11:18 AM
To: Graeme Innes
Cc: Arch, Andrew; Miller, Steven
Subject: AGIMO / Vision Australia - PDF Accessibility Review [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi Graeme,

We learnt along the Accessibility grapevine that AHRC has been out talking with parties with an intention to commission an assessment of the accessibility of PDF documents now that PDF/UA is a standard and agencies have been educated and should be making more efforts to ensure their PDF's are created accessible.

I write to let you know that AGIMO are in the process of negotiating the testing and assessment of current PDF's with Vision Australia. As you know we each (AGIMO & AHRC) committed to review the acceptability of PDF's when PDF /UA was released and after the W3C release Sufficient Techniques (under WCAG 2.0) to enable PDF documents to be assessed against a standard criteria for accessibility. You may recall we shared some scepticism about the ability of government to adopt these new techniques and users to upgrade to newer versions of their Assistive Technologies to enable them to take advantage of these accessibility improvements and so we made the joint decision to review again in 2013 and assess whether our combined positions on the requirement to publish in multiple formats should be amended.

To further that work and finalise PDF accessibility issues, we are commissioning Vision Australia to test whether PDF's are sufficiently supported by AT's to underpin the possible revision of the policy. A cop of our draft Statement of Requirement (SoR), is attached, so you can assess whether this would meet the needs of the AHRC. VA want to do additional user testing but that is not within our budget.

Our intention was to share the results with the AHRC and, depending on those outcomes, either amend or restate our combined position on the use of PDF as a format for government documents. There is scope to include additional requirements on your behalf should the AHRC like to join the test project. We have not provided the SoR to VA yet for final quotation. Please let me know if these investigative items will satisfy the AHRC inquiry or alternatively if you'd like to add more. We'd like to commence this project in the new few weeks.

I will be in Sydney for meetings on 18 & 19 of March, perhaps it would be a good time to come and meet the new AHRC policy team and inform you about some of our planned 2013 work in Accessibility and government publishing in general. Please let me know a few suitable times across those days that you might be available and I will make time to come and see you.

Thanks
Jacqui

Jacqui van Teulingen | Director
Australian Government Information Management Office
Web Policy Team
Department of Finance and Deregulation
T: +61 2 6215 1508 | **M**: +61 411 205 489 | **E**: Jacqui.vanteulingen@finance.gov.au
A: 25 National Circuit, Forrest, ACT 2603
✉: John Gorton Building, King Edward Terrace, PARKES ACT 2600
AGIMO Blog agimo.govspace.gov.au

UNCLASSIFIED

Finance Australian Business Number (ABN): 61 970 632 495
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Bronwyn Byrnes

From: Arch, Andrew <Andrew.Arch@finance.gov.au>
Sent: Tuesday, 4 March 2014 12:24 PM
To: Helen Potts
Cc: Graeme Innes; Van Teulingen, Jacqui; Miller, Steven
Subject: PDF and accessibility [SEC=UNCLASSIFIED]
Attachments: PDF Review 2013 - DRAFT Blog Post - final-sjm-aa.docx; AHRC WWW Advisory Notes - AGIMO suggested edits.docx

Follow Up Flag: Follow up
Flag Status: Completed

UNCLASSIFIED

Hello Helen,

Further to Jacqui's email in January, and her subsequent discussion with you, we've prepared a draft blog post to release shortly with the Vision Australia report stating the position on PDF accessibility – that it can't be relied upon except in certain circumstances like an intranet.

It would be great if we could get a quote from Graeme about the excellent access in the office/home but need to also access much information on the move and the inappropriateness and lack of accessibility to some audiences of PDF in that situation.

I've attached a draft of the blog post – not expecting much change to that (but will send you an update if the sense change). We will also send you a final copy for checking before we publish.

We've also drafted some edits (attached) for your consideration for an update to the WWW Advisory Notes after we release the Vision Australia report.

Please call if you'd like to discuss either of the documents.

Cheers, Andrew

Andrew Arch | Assistant Director
Web Advice and Policy - Accessibility
Australian Government Information Management Office
Department of Finance

T: 02 6215 1618 | **E**: andrew.arch@finance.gov.au
A: Minter Ellison Building, 25 National Circuit, FORREST ACT 2603

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DRAFT Blog Post – PDF Accessibility Study 2013

To be published under Stein Helgeby's name to carry appropriate authority

PDF as an Accessibility Supported Technology

In 2010, Finance indicated that it would review the situation regarding Portable Document Format (PDF) accessibility in 2013 following the release of the PDF Universal Accessibility Standard and the development of specific techniques for compliance with WCAG 2.0.

We recently reviewed the technical ability of PDF to satisfy the 'accessibility supported' requirements of WCAG 2.0 and found that an accessible PDF document satisfies 'accessibility support' for the major 'desktop' screen readers tested; but lacks 'accessibility support' in the mobile environment.

In a narrow sense, given the recent developments in PDF technology, the publication of a PDF document as a sole format could be acceptable for accessibility. However, since 2012, people are increasingly wanting to access government information from their mobile devices with the result that internet access from mobile devices has risen to more than 50%. In addition, the Government has committed to provide 'Convenient Services Anytime Anywhere' which requires greater access to information and services through mobile devices. In the mobile environment, PDF documents are difficult for most and impossible for some, even if created according to the new standards.

The Hon Susan Ryan AO, Acting Disability Discrimination Commissioner, AHRC, says

> "Access to the PDF format has significantly improved in the home or office environment. However, in mobile settings – now about 50 percent of internet use in Australia – this is not the case. The Commission therefore continues to regard the PDF format as not accessible in most circumstances."

Both the Australian Human Rights Commission (AHRC) and Finance consider that the lack of support for PDF in the mobile environment is a significant issue and reinforce the existing policy that agencies should continue to publish their documents in HTML, with an accessible PDF optionally provided. We consider the existing policy for 'minimum content requirements' for a government website, as defined in the National Transition Strategy outlined in 2010, *needs* to remain as HTML.In other words the policy is unchanged.

Importantly, in this evolving world of digital communication where much government information is consumed as 'information on the go' or 'in the moment', the accessibility, operability and usability of PDF documents by all mobile users becomes relevant.

Agencies are encouraged to read the Review's findings and give consideration to how this may affect their own online publishing strategies, particularly for the mobile environment. In all cases the creation of PDF's should now incorporate W3C's WCAG 2.0 PDF techniques.

Comment [AA1]: Link to Vision Australia report

Further information on the approach to using PDF for publishing information and reports is provided in the updated Web Guide.

For further information, contact the web policy team on digital@finance.gov.au.

Stein Helgeby
Diversity Champion
Deputy Secretary
Department of Finance

C:\Users\byrbr\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\63H16WQ6\PDF Review 2013 - DRAFT Blog Post - final5.docx

Australian Human Rights Commission

World Wide Web Access:
Disability Discrimination Act Advisory Notes

Version ~~4.0~~4.1

~~October 2010~~month 2014

Comment [AA1]: Suggest just changing the version to 4.1 to indicate that it isn't a complete rewrite.

Contents

Foreword

Individuals and organisations providing information and services via the World Wide Web need to think about how they make their websites and other web resources accessible to people with a disability. One in five Australians has a disability, and the proportion is growing. The full and independent participation by people with a disability in web-based communication and online information delivery not only makes good business and marketing sense, but is also consistent with our society's obligations to remove discrimination and promote human rights.

The UN Convention on the Rights of Persons with Disabilities asserts the right of people with a disability to participate fully and independently in all aspects of society, including the internet and access to information. The Convention calls on parties to take all necessary measures to ensure that these rights are upheld and promoted. Australia has ratified the Convention, and so has obligations to implement policies and practices that are consistent with it.

It has been widely recognised for over a decade that the Web Content Accessibility Guidelines (WCAG) developed by the World Wide Web Consortium (W3C) represent the most comprehensive and authoritative international benchmark for best practice in the design of accessible websites. There is still however a need for much more effort to implement accessible web design, by government, industry, and community organisations. In this context it is noteworthy that the Australian Government, working in collaboration with the states and territories, has developed a Web Accessibility National Transition Strategy for improving the accessibility of government websites through a phased implementation of WCAG 2.0.

Access for people with a disability to the web can in almost all cases be readily achieved if best-practice solutions are implemented. A complaint of disability discrimination is much less likely to succeed if reasonable steps have been taken to address accessibility during the design stage.

The purpose of these Advisory Notes is to provide background information about accessibility and legal issues, as well as advice about how web designers and website owners can minimise the possibility of disability discrimination without sacrificing the richness and variety of communication offered by the web and web-based technologies. This new version (version ~~4.04~~ 4.1) includes specific advice about a transition to WCAG 2.0.

The Commission welcomes suggestions for further updates to these Notes, including links to useful resources. Comments may be sent by e-mail to disabdis@humanrights.gov.au.

Revision History

Changes from version 4.0 of these Advisory Notes
- (reflecting the updated guidance on PDF)

Changes from version 3.2 of these Advisory Notes:

- Substantial wording changes and content reorganisation;
- Inclusion of reference to the Convention
- Inclusion of list of Ten Common Accessibility Failures
- Inclusion of a section on general principles of accessible content design, in which there is a subsection on the Portable Document Format (PDF) and accessibility that contains updated and expanded guidance on the use of PDF documents;
- Inclusion of information about, and recommendations for implementation of, transitioning to, WCAG 2.0.

Comment [SJM2]: This will need to be rewritten to reflect substantial changes or updated advice, etc
Or, the version will need to become 4.1 with some notes to reflect the changes from v4.0

Changes from version 3.1 of these Advisory Notes:
- content restructured
- New content added (sections 2.3, 2.4, 3.2)
- Web Content Accessibility Guidelines more clearly endorsed as accessibility standard

1
Introduction

1.1 Purpose and Status of These Notes

These advisory notes are issued by the Australian Human Rights Commission ("the Commission") under section 67(1)(k) of the Disability Discrimination Act 1992 ("the DDA"), which authorises the Commission to issue guidelines for the purpose of avoiding discrimination.

These Advisory Notes are intended to assist individuals and organisations involved in the ownership or development of web resources, by clarifying the requirements of the DDA in this area, and explaining how compliance with them can be best achieved. These Advisory Notes do not have direct legal force, nor do they substitute for the provisions of the DDA itself. However, the Commission and other anti-discrimination agencies can consider them in dealing with complaints lodged under the DDA. Following the advice provided here should also make it far less likely that an individual or organisation will be subject to complaints about the accessibility of their website or other web resource.

Developments in standards, protocols and technologies used on the internet take place at a very rapid rate. These notes are therefore not designed to be exhaustive, or to provide technical advice about current practices. In considering any complaints about access, the Commission would take into account the extent to which a service provider has attempted to utilise the best current information and advice regarding the development of accessible websites.

1.2 What is Accessible Web Design"

In its most general sense, accessible web design refers to the philosophy and practice of designing web content so that it can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. Accessible web design is usually discussed in relation to people with a disability, because this group is most likely to be disadvantaged if the principles of accessible web design are not implemented. Failure to follow these principles can make it difficult or impossible for people with a disability to access web content.

Tim Berners-Lee, the inventor of the World Wide Web and Director of the W3C, has commented that "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect."

There are important similarities between designing for accessibility of the physical environment and designing for accessibility of the virtual environment (including the web). Accessibility of buildings and other aspects of the physical environment is best achieved through careful planning and attention to detail, rather than by adding accessibility features at the end of the design process. Similarly, creating accessible web content should be an integral part of the web design cycle, and accessibility features should be incorporated into all aspects of the design process. Testing for accessibility should also be incorporated into all user testing regimes, and should never be seen as an isolated event that can occur after other user testing has taken place. Designing for accessibility is thus as much a strategic issue as a purely technical one.

Accessibility does not require that content be limited to plain text, or that graphics cannot be used. More sophisticated and innovative content can and should also be made accessible. WCAG 2.0 provides many techniques for maintaining visual appeal and dynamic user interaction without sacrificing accessibility. Only in rare cases will it be necessary or desirable to provide alternatives to an otherwise inaccessible feature.

2
Equal Access and the Web: Some Issues

2.1 Introduction

Governments, business, educational and other organisations in Australia use the web as a means of providing the public or sections of the public with access to information and other services in a timely and cost-effective way.
Availability of information and services in electronic form via the web has the potential to provide equal access for people with a disability, and to provide access more broadly, more cheaply and more quickly than is possible using other formats. For example:

- People who are blind or have low vision can use appropriate hardware and software (assistive technology, or AT) to gain access to banking services, online grocery shopping, and electronic documents in braille, audio or large print form;
- Deaf people, and people who have hearing impairments, can have more immediate access to captioning or transcription of audio material;
- Many people whose disability makes it difficult for them to handle or read paper pages can use a computer, for example with a modified keyboard or with voice control;
- Web publications may provide an effective means of access for people whose disability makes it difficult for them to travel to or enter premises where the paper form of a document is available.

By itself, however, the presence of a document or service on the web does not guarantee accessibility. For example:

- Current screen-reading software is not able to interpret information or links presented only in graphical or "image-only" format;
- Content provided only in audio format will not be accessible to Deaf people or some people with hearing impairments unless a text alternative is provided;
- Although users can determine many aspects of colour, size and print font of output for themselves, some approaches to text form or colour will render access difficult or impossible for users who have low vision (and in some cases for many other users also).

Further, people with a disability have lower average incomes than other members of the community because of the extremely high unemployment rate among people with a disability. As a result, they often do not have access to state-of-the-art technologies. So even if access is technically possible, a web resource may not provide reasonable access in practice.

On the basis of available expert information, it is reasonable to conclude that it is technically feasible to remove most barriers to the equal access of web resources by people with a disability, and that this may be done in a way that does not detract from the usefulness or attractiveness of the web to other users. In many cases, incorporating accessibility features will actually benefit all users.

The DDA does not require, and these Notes do not suggest, that web resources be restricted to plain black-and-white text. Forms and formats that give increased functionality for some users, or increased scope for creativity by developers, are not prohibited or discouraged. It is essential, however, that where a feature does not itself provide equal accessibility, an effective accessible alternative is provided, unless this is not reasonably possible.

2.2 Equal Access is Required by Law

The provision of information and online services through the web is a service covered by the DDA. Equal access for people with a disability in this area is required by the DDA where it can reasonably be provided. This requirement applies to any individual or organisation developing a website or other web resource in Australia, or placing or maintaining a web resource on an Australian server. This includes web pages and other resources developed or maintained for purposes related to employment; education; provision of services including professional services, banking, insurance or financial services, entertainment or recreation, telecommunications services, public transport services, or government services; sale or rental of real estate; sport; activities of voluntary associations; or administration of Commonwealth laws and programs. All these are areas specifically covered by the DDA.

In addition to these specific areas, provision of any other information or other goods, services or facilities through the internet is in itself a service, and as such, discrimination in the provision of this service is covered by the DDA. The DDA applies to services whether provided for payment or not.

2.3 Equal Access is a Right

In December 2006 the United Nations adopted the Convention on the Rights of Persons with Disabilities (CRPD, hereinafter referred to as "the Convention"). The Convention asserts a range of fundamental rights and freedoms that people with a disability enjoy as members of society. Article (4)(1)(g) of the Convention calls on parties to "Promote access for persons with disabilities to new information and communications technologies and systems, including the Internet".

Article 21 requires that States Parties take:

> "all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice", ... including

a. Providing information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost;

b. Accepting and facilitating the use of sign languages, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions;

c. Urging private entities that provide services to the general public, including through the internet, to provide information and services in accessible and usable formats for persons with disabilities;

d. Encouraging the mass media, including providers of information through the internet, to make their services accessible to persons with disabilities;

e. Recognizing and promoting the use of sign languages."

Australia was one of the first signatories to the Convention, and it subsequently ratified it in July 2008. While the Australian Government has primary responsibility for meeting Australia's obligations under the Convention, all sections of society, including industry, educational institutions, and community organisations, must play an active role in upholding the rights established by the Convention. Accordingly, any failure to provide full access to the web and other internet-based technologies for people with a disability may be seen as a violation of human rights.

2.4 Publishing Accessible Content on the Web

2.4.1 General Principles

Web designers should be aware that providing access to the navigational features of web resources is not sufficient to make the resource fully accessible. The way in which web content is presented or published will also affect its accessibility. For example, material that is presented only in an image-based format such as GIF or TIF will not be accessible to some people with a disability, including people who are blind or have low vision and who therefore rely on braille, synthetic-speech, or screen-magnified output to read computer screens.

The accessibility of documents published on the web is best achieved by following general principles of accessible document design from the earliest stages of authoring. It is generally more difficult and time-consuming to add accessibility features in the final stages of publishing. The accessibility of a document depends on a number of factors, and is not guaranteed merely by publishing it in a particular format. Factors that must be taken into account include:

- the use of features that provide consistent information about the structure of the content (for example, the use of styles to indicate headings rather than manually changing the font attributes in a document);

- the provision of text descriptions for all meaningful graphics, and

- the avoidance of features that are known to be inaccessible (such as including scanned text images).

Document authors and content managers should familiarise themselves with the Guidelines for Accessible E-text produced by the Round Table on Information Access for people with Print Disabilities Inc., available at www.printdisability.org.au.
These guidelines provide more detailed information about the principles that should be followed when designing accessible documents.

The accessibility of material published on the web will also depend on the format in which it is distributed. There are wide variations in the accessibility of different file formats, and some formats are generally considered to be more suited to a particular type of content than others. Feedback that the Commission has received from users and web accessibility experts suggests that traditional HTML is the most universally accessible format. Other formats have advantages and disadvantages that should be considered when deciding which format to use. For example, the RTF format is considered to be more generic, but it is less suited than Microsoft Office Word to representing complex tables so that they can be navigated successfully by screen-reading software. In general, material will be accessible to the greatest number of users when it is published in multiple accessible formats.

When content is published in multiple formats, care must be taken to ensure that all formats contain identical content.

It should also be borne in mind that some content cannot be made accessible online to some people with a disability, especially if it is inherently graphical in nature. Organisations that make such content available online need to consider strategies for making it accessible, for example, by providing text descriptions of pictorial content, or using qualified contractors to produce tactual maps and diagrams on request.

2.4.2 The Portable Document Format (PDF) and Accessibility

The Commission receives frequent requests for advice about the accessibility of content published in PDF. The following information is therefore provided to help clarify some of the issues that arise in discussions of PDF and accessibility for people with a disability.

Comment [SJM3]: AGIMO is not in a position to comment or provide advice on this.

The ~~Portable Document Format (~~PDF~~)~~ file format was originally developed by Adobe in 1992 but is now an open standard (ISO 32000-1:2008). PDF has become widely used for making documents available on the web and through other distribution channels. Recent versions of the PDF specification (including PDF/UA - ISO 14829-1:2012) allow the inclusion of a variety of features designed to improve access for people with a disability~~, especially for people who are blind or have low vision~~. These ~~features~~ features documented in W3C's WCAG 2.0 PDF Techniques and produced through ~~include:~~ markup tags (conceptually similar to HTML markup) ~~to~~ specify ~~elements~~ identifying elements, ~~of a document's structure~~such as :

- document structure
- ~~facilities for adding~~ text descriptions for images~~to graphics~~; ~~and~~
- ~~a mechanism for specifying the~~ logical reading order of columnar text.

Comment [SJM4]: Updated this paragraph to incorporate recent events such as PDF/UA ISO Standard 14829-1, PDF Techniques, etc

- o form labels
- o heading, lists and tables

Comment [SJM5]: Have updated this to reflect common and critical elements for accessibility

If authors incorporate these features into the design of their documents, the resulting accessibility will likely cater for ~~be improved for~~ people who use assistive technology, such as screen-reading software, that has been designed to support these features in the desktop/PC environment.

Comment [SJM6]: Amended to reflect that AT's in the desktop environment can be accessible

However ~~T~~there ~~are~~ is currently ~~currently several~~ a significant limitations ~~to~~ on the accessibility ~~of~~ of PDF documents in the mobile environment, as mobile screen reader technology does not reveal any information contained in the markup tags.

Comment [SJM7]: Amended to reflect that AT's are not accessible in the mobile environment. Also there are no longer several limitations, more one major limitation i.e. mobile

~~• Accessibility features must be incorporated by the document author, if they are not, the resulting PDF document is unlikely to be fully accessible;~~

Comment [SJM8]: Removed as it is incorporated (referred to) in the paragraph "If authors incorporate .....

~~• Some aspects of a document that are often used to convey semantic value (meaning) are not currently supported by accessibility features in the PDF specification. For example, there is no support for the specification of certain font attributes such as underlining and strikethrough. These features are supported in HTML and Microsoft Office Word, and can be essential to the proper interpretation of documents.~~

~~• There is currently inconsistent and incomplete support for PDF accessibility features among various assistive technologies used by people with a disability. For example, one widely-used screen-reader supports the "paragraph" tag that allows a user to identify each new paragraph in a document, but the same screen-reader does not support the "heading" tag that allows a user to identify and navigate quickly from heading to heading. Another popular screen-reader supports the "heading" tag but does not support the "paragraph" tag.~~

Comment [SJM9]: Removed as these are both not true in the desktop environment, and bullet points are not part of the preceding paragraph structure. Also references to semantic mark-up elements is made elsewhere.

~~• There is no international guideline that has been developed through broad-based stakeholder consultation and which expresses the characteristics that a PDF document must have for it to be regarded as meeting accessibility benchmarks.~~

Comment [SJM10]: Removed as there is now international guidelines, noted elsewhere

Based on the best advice available to us, and the results of our own evaluation, the Commission acknowledges ~~is compelled to conclude that none of~~ the popular desktop screen-readers currently available ~~on~~ in the Australian market do provide the required accessibility ~~support all the accessibility~~ features ~~that are~~ defined in the PDF specification. This though is tempered, ~~by the lack of support or even all of~~ for those same features in the expanding mobile environment, which ~~compels the Commission to conclude that PDF's that would~~ provide a significant barrier for ~~be reasonably considered essential for~~ an equal and independent user choice, when ~~experience~~ interacting with ~~PDF~~ the documents.

Comment [SJM11]: Amended to indicate that PDF is still not a acceptable format, with the explanation focusing on incompatibility with the Mobile environment. Noting the accessibility in a desktop/PC environment

The Commission's advice, current ~~August~~ February 2014~~0~~, is therefore that PDF cannot be regarded as a sufficiently accessible format to provide a user experience for a person with a disability that is equivalent to that available to a person without a disability, and

which is also equivalent to that obtained from using the document marked up in traditional HTML.

Accordingly, organisations that publish documents only in PDF risk complaint under the DDA unless they make the content available in at least one additional accessible format ~~and in a manner~~ that disseminates semantic meaning ~~incorporates principles of accessible~~ the document ~~design~~structure, its design and content to mobile users. Additional formats should be published simultaneously with the PDF version, and at least one such format should be downloadable as a single document if the PDF version is available as a single download.

Comment [SJM12]: Amended slightly to convey that the additional format needs to be accessible, particularly to mobiles. Two inaccessible documents, still equates to inaccessibility. In essence this would likely mean a HTML version is required.

Noting that the accessibility features of PDF documents are accessible for most PC users, the Commission's advice allows that a document may be published solely as a PDF, only after strong consideration is given to whether the interaction is conducive to Accessibility Support; for example:

- an Intranet where the organisation provides a standard operating environment for PCs that delivers a suitable accessibility supported platform
- a report where there is a reasonable expectation that its readers would consume the information from a desk based environment, rather than via a mobile device (for example a detailed reference document)

In these situations the PDF should still be authored to incorporate W3C's WCAG 2.0 PDF Techniques

~~Because the use of accessibility features in PDF documents does improve their accessibility for some users, the Commission's advice is that all documents published on the web in PDF should be authored to incorporate as many accessibility features as possible, including, as a minimum:~~

~~The explicit specification of logical reading order;~~
~~Provision of text descriptions for all meaningful images (Alt-text);~~
~~Proper construction of tables using the appropriate markup tags;~~
~~The use of paragraph, heading, and list tags.~~

Comment [SJM13]: Rewritten to focus on situations where PDF without alternative versions may be acceptable. The previous advice has been covered elsewhere

~~The Commission strongly encourages developers of the PDF specification to work closely with users with a disability to identify an optimal set of accessibility features, and to add those that are currently lacking.~~

Comment [SJM14]: Removed as PDF UA and PDF Techniques are now available

Developers of assistive technologies such as screen-reading software are ~~also~~ strongly encouraged to provide standardised and complete support for ~~those~~ the suite of accessibility features already ~~that are~~ available to document authors as part of the PDF/UA specification and the W3C WCAG 2.0 PDF techniques.

~~The Commission will review the accessibility of PDF documents again in 2013, by which time it is expected that the provision, support, and utilisation of accessibility features will have improved.~~

Comment [AA15]: Mobile is moving so fast that Finance/AGIMO should not commit to any further review at this stage.

2.4.3 Accessibility and Document Security

Some file formats provide mechanisms for enhancing the security of documents by preventing unauthorised editing, copying, or printing. Some of these mechanisms are not compatible with accessibility for people with a disability, and document authors should ensure that security features do not prevent access to the document by assistive technology.

If there are concerns about ensuring the authenticity of material published on the web in multiple formats, then a statement should be included that specifies which format is to be regarded as definitive or authorised, and noting that additional formats are being provided to maximise access.

2.5 Access to Specific Technologies

Rapid developments continue to take place, both in the mainstream technologies that are used on the internet, and also in the specialist approaches that are used by manufacturers of screen-reading software. The move towards the adoption of standards based on XML should be of benefit to accessibility initiatives. However, there is often a considerable lag time between a beneficial development in technology, or accessibility support for that technology, and when the average user with a disability is in a position to benefit from its implementation. New versions of screen-reading software are generally quite expensive, and training opportunities are extremely limited.

Web designers should assume that most users with a disability will not have access to the most current version of software, or know how to use its advanced features. This is true even if a particular technology is considered to be "accessibility supported" or to comply with WCAG 2.0. Putting this another way, compliance with WCAG 2.0 is strongly recommended, but will not, of itself, always guarantee equal access to the web and the fulfilment of obligations under the DDA and the Convention.

It is important for developers to understand that in many cases the accessibility of a particular technology will be determined by how it is used. For example, it is widely considered that JavaScript can be implemented so as to be accessible. However, JavaScript can also be used in ways that are inaccessible, particularly if full keyboard support is not provided. Similarly, Flash can be implemented in ways that support accessibility, but in practice almost all Flash content is currently either inaccessible to certain groups of users or only partially accessible (for example, due to the use of unlabelled controls).

In other words, it is wrong to assume that improvements in the accessibility of a technology mean that it can be used indiscriminately, without regard for the principles of accessible web design.

Developers of web content have a clear responsibility to ensure that they use technologies in ways that are accessible and which take into account the realistic situation of users.

3
Access advice: General Issues

3.1 Introduction

The Commission believes that the Web Content Accessibility Guidelines (WCAG) 2.0 that were released by the World Wide Web Consortium (W3C) in December 2008 provide the most comprehensive set of testable benchmarks for assessing key aspects of the accessibility of websites and other web content, and represent current international best practice in most areas of accessible web design. Familiarity with techniques for implementing these guidelines is therefore essential for anyone involved with the design or evaluation of accessible web content.

It should be emphasised, however, that accessibility of web content cannot always be achieved solely through compliance with WCAG 2.0. In addition to these Guidelines, web designers and authors will need to make themselves familiar with a range of tools, resources, and emerging best-practice solutions, as they meet their accessibility goals and responsibilities under the DDA and the Convention. This is particularly the case in areas that are not comprehensively addressed in WCAG 2.0, such as the needs of people with cognitive disabilities.

There may also be situations where it is appropriate to use technologies that are not strictly compliant with WCAG 2.0 but which can nevertheless deliver enhanced accessibility. An example is the increasing use of social networking technologies such as Twitter and Facebook to create "amplified events". Although there are features of these technologies that are currently not fully accessible, they can be used in ways that enhance and possibly even allow participation by people with disabilities if general accessibility principles are followed. For example, if Twitter is used in a classroom or conference environment and tweets are projected onscreen, then alternative non-visual access to the onscreen information will need to be provided to accommodate participants who are blind or have low vision. The Commission recommends that expert accessibility advice be sought about current best-practice approaches to the use of emerging technologies.

3.2 The Importance of Expert Advice

In considering a disability discrimination complaint about web accessibility, the Commission takes into consideration the extent to which the best available advice on accessibility has been obtained and followed.

The Commission strongly encourages web designers to use expert advice and information that is up to date with web content publishing and access challenges and solutions. A number of Australian companies and organisations provide consultancy and design services with specialisation in accessibility. There is currently no national accreditation system for expertise in this area, so potential clients of such services should use standard assessment practices such as speaking with referees and examining samples of their work.

There are a number of evaluation tools and techniques that web designers can employ to test the accessibility of their sites. However, there is no complete substitute for user testing, and designers should, wherever possible, involve users of assistive technology in the testing and evaluation of the accessibility of their websites and web content.

3.3. Ten Common Web Accessibility Failures

Although there are many reasons why a web resource may be inaccessible, a number of common accessibility failures account for a significant proportion of the problems that people with a disability encounter when using the web. The following are ten such failures. Web developers should ensure that they design their websites so as to avoid them, and should take steps to rectify them if they are already present.

1. Failure to include appropriate text descriptions (such as "alt-text" labels) for images;

2. Failure to provide accessible alternatives when using a visual CAPTCHA;

3. Failure to use technologies (such as Flash and JavaScript) in ways that are accessible;

4. Failure to use HTML features appropriately to indicate content structure such as the hierarchy of headings;

5. Failure to explicitly associate form input controls with their labels;

6. Failure to ensure sufficient difference between foreground (text) colour and background colour;

7. Failure to identify data tables with Summary or Caption, and failure to mark-up data tables correctly;

8. Failure to provide a way for users to disable content such as advertisements from flashing rapidly (rapidly-flashing content may cause seizures in susceptible individuals), and failure to provide a way for users to stop a page from auto-refreshing;

9. Failure to ensure that web pages can be used from the keyboard (that is, without the mouse);

10. Failure to alert the user to changes on a web page that are triggered automatically when selecting items from a dropdown menu.

It is beyond the scope of these Advisory Notes to provide technical advice about how to rectify these failures. In most cases, however, they represent non-compliance with various WCAG 2.0 Success Criteria (see section 4.3.1 below for a brief explanation of WCAG 2.0 Success Criteria), and the W3C provides a comprehensive range of technical documentation about how to comply with WCAG 2.0. Web developers who need further advice or clarification should seek the assistance of a web accessibility consultant.

4.1 Introduction

The Web Accessibility Initiative (WAI) of the W3C has developed several sets of guidelines focussing on various technologies associated with the design or use of the web. The Web Content Accessibility Guidelines (WCAG) 1.0 were released as a W3C Recommendation in May 1999. WCAG 1.0 became an international benchmark for web accessibility, and the previous version of these Advisory Notes endorsed their use in the Australian context. In June 2000, the Online and Communication Council (OCC) of the Council of Australian Governments (COAG), representing the Commonwealth and all state and territory governments, agreed that WCAG 1.0 would be the common best practice standard for all Australian government websites.

Following a period of extensive review and public consultation, the W3C released version 2.0 of WCAG in December 2008. WCAG 2.0 is now a stable document and may be used as reference material or cited as a normative reference from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and universality of the web.

WCAG 2.0 has now been endorsed for use by governments in Australia:

- At the end of 2009, the Australian Government's Secretaries' ICT Governance Board (SIGB) endorsed the Australian Government's transition to WCAG 2.0. The endorsement requires all Australian Government websites to implement WCAG 2.0 to level AA ~~level~~ over a four-year period. The SIGB's authority applies to agencies managed under the Financial Management and Accountability Act 1997 (FMA Act).

- The COAG OCC ~~have~~ endorsed WCAG 2.0, requiring all federal, state and territory websites to conform to WCAG 2.0 ~~to Single A level~~at Level A by the end of 2012.

In June 2010, the Australian Government released its Web Accessibility National Transition Strategy (NTS), which sets out a strategy and workplan for transitioning to WCAG 2.0 Level AA over a four-year period. The Strategy is available at http://www.finance.gov.au/publications/wcag-2-implementation/index.html.

In 2012 WCAG 2.0 became at ISO standard (ISO/IEC 40500:2012) which will assist its international adoption.

4.2 Transitioning to WCAG 2.0

The Commission has given careful consideration to the most effective strategies for implementing WCAG 2.0 in the Australian context, and our advice is as follows:

a) All Australian government websites should comply with the timelines and conformance requirements of the NTS, whether or not they are specifically mandated to do so. In particular, state and territory governments are strongly encouraged to comply with the AA conformance level that applies to Commonwealth Government websites;

b) Non-government websites and web resources whose development commences after July 1 2010 should comply with WCAG 2.0 to a minimum of AA-Level conformance;

c) Existing non-government websites or web resources that undergo substantial change in the period July 2010 – December 2013 should comply with WCAG 2.0 to a minimum level of AA conformance;

d) All existing non-government websites and web content should comply with WCAG 2.0 to a minimum level of AA conformance by December 31 2013.

4.3 The Web Content Accessibility Guidelines 2.0: Some Key Concepts

This section summarises some of the key concepts in WCAG 2.0. Web developers will need to familiarise themselves with the full text of WCAG 2.0 in order to apply them correctly in the design of web content.

4.3.1: Basic Principles

WCAG 2.0 is founded on four "top level" principles, each of which is operationalised by means of general guidelines, success criteria, and sufficient and advisory techniques.

The four foundational principles require that accessible web content must be:

1. Perceivable: Information and user interface components must be presentable to users in ways they can perceive. One implication of this principle is that information cannot be presented in a form that is only available through one sense, such as providing only a visual form of a CAPTCHA.

2. Operable: User interface components and navigation must be operable. In other words, users must be able to operate with the user interface and navigational aspects of a website. One implication of this principle is that interaction with web content should not depend on a user being able to use a physical mouse.

3. Understandable: Information and the operation of user interface components must be understandable. In other words, users must be able to understand both the information (content) and how to interact with it. One implication of this principle is that changes of content or context must not be triggered unexpectedly (for example, through the use of focus changes).

4. Robust: Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies. One implication of this principles is that a webpage should not require the use of a specific assistive technology (such as a specific screen reader) in order to be accessible.

There are twelve Guidelines that provide the next level in WCAG 2.0. There is a varying number of Guidelines associated with each of the four foundational principles, as follows:

1. Perceivable
   1.1. Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

1.2. Provide alternatives for time-based media.
1.3. Create content that can be presented in different ways (for example simpler layout) without losing information or structure.
1.4. Make it easier for users to see and hear content including separating foreground from background.

2. Operable
   2.1. Make all functionality available from a keyboard.
   2.2. Provide users enough time to read and use content.
   2.3. Do not design content in a way that is known to cause seizures.
   2.4. Provide ways to help users navigate, find content, and determine where they are.

3. Understandable
   3.1. Make text content readable and understandable.
   3.2. Make Web pages appear and operate in predictable ways.
   3.3. Help users avoid and correct mistakes.

4. Robust
   4.1. Maximise compatibility with current and future user agents, including assistive technologies.

The next level of WCAG 2.0 is Success Criteria, which are testable statements that indicate whether a particular Guideline has been met. These Success Criteria are written so as to be independent of a particular technology (that is, they are technology-neutral), which maximises their applicability to current and future technologies associated with the web. Success Criteria are identified by the Guideline to which they refer, and also by their level of conformance (Level A, Level AA, or Level AAA). An example of a Success Criterion is as follows:

> "1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. (Level A)"

In the above example, "1.1.1" means that this Success Criterion relates to Guideline 1.1, and "Level A" means that it must be satisfied for the web page or content to meet the minimum (Level A) conformance level defined in WCAG 2.0.

It is important to note that while some Success Criteria can be tested automatically (for example, by an accessibility checker tool), others require human evaluation. Accessibility checkers should therefore be seen as an aid to testing but not as a substitute for evaluation by human users.

For each Success Criteria, the WCAG 2.0 Working Group has assembled a growing collection of Sufficient Techniques and Advisory Techniques. These techniques provide practical advice about how to meet the Success Criteria in specific instances and in relation to specific technologies. They are grouped under each Success Criteria, and linked from the main WCAG 2.0 document. In general, it will not be necessary to incorporate all of the Sufficient and Advisory Techniques associated with a particular Success Criterion in order to satisfy it, and developers should choose whichever Techniques are most appropriate for their specific needs.

4.3.2: WCAG 2.0 Conformance Requirements

The WCAG 2.0 has retained the concept of three conformance or compliance levels that was introduced in WCAG 1.0. However, the three levels in the WCAG 2.0 are not equivalent to the three levels in WCAG 1.0, even though they retain the designations "Level A", "Level AA", and "Level AAA". This means that a website that conformed to Level AA under WCAG 1.0 may not conform to Level AA in the WCAG 2.0. Conformance at a particular level requires that all the Success Criteria defined for that level are satisfied. Web developers and evaluators will need to study the conformance requirements for each level very carefully, and they cannot assume equivalence between WCAG 1.0 and WCAG 2.0.

In addition to the three conformance levels, WCAG 2.0 specifies five conformance requirements that must be met if a web page or other web resource is to claim conformance with WCAG 2.0. These requirements are quite detailed, and developers and evaluators will need to study them carefully. One example is as follows (quoting from the WCAG 2.0 document):

> "3. Complete processes: When a web page is one of a series of Web pages presenting a process (i.e., a sequence of steps that need to be completed in order to accomplish an activity), all web pages in the process conform at the specified level or better. (Conformance is not possible at a particular level if any page in the process does not conform at that level or better.)"
> *Example:* An online store has a series of pages that are used to select and purchase products. All pages in the series from start to finish (checkout) conform in order for any page that is part of the process to conform.

The Commission's advice is that all web resources (including web pages and websites) should achieve a minimum of Level AA conformance in order to be consistent with the Aims and Objects of the DDA. In addition, some web resources may need to achieve ~~Level AAA~~ conformance with at least some Level AAA success criteria, for example, health and safety information, national warnings, and online resources published by education institutions and which are intended for use by all students studying a particular course.

4.3.3: Accessibility Supported Technologies

WCAG 2.0 introduces the concept of "accessibility supported" to assist developers of web resources determine whether a particular technology (or feature of a technology) is likely to be accessible by people with a disability. The formal definition of "accessibility supported" as given in the Glossary of the WCAG 2.0 document is quite complex, and may be difficult to understand and apply in individual cases without expert advice. An important aspect is that many technologies can be used in ways that are accessibility supported, as well as in ways that are not, but for purposes of assessing WCAG 2.0 conformance, technologies must be used in ways that are accessibility supported. For example: JavaScript and Flash can both be used in ways that are accessible to some assistive technologies, but they can both be used in ways that are inaccessible (for example, if JavaScript does not permit keyboard navigation, or if Flash controls do not have text labels). In general, technologies should not be assumed to be accessibility supported in their entirety.

Comment [AA16]: While Vision Australia did not look at Flash, it has even more issues on an iOS device – it doesn't play for anyone!

It is also important to note that a technology may not necessarily be categorised as accessibility supported just because it is supported by a particular assistive technology. For a technology to be regarded as accessibility supported, it must also be reasonably available to users, taking into account financial and other considerations.

Technologies and features of technologies may be used to achieve conformance with WCAG 2.0 only if they are used in ways that are accessibility supported. Technology features can be used in ways that are not accessibility supported (that is, in ways that do not work with assistive technologies, etc.) as long as they are not relied upon to ~~conform to any success criterion~~deliver information or services (that is, the same information or functionality is also available in another way that is supported).

The Commission encourages web developers to clearly state which technologies they have relied upon in publishing web content.

WCAG 2.0 does not provide a list of accessibility supported technologies, since such a list is likely to require regular updating and is likely to have local variation. The Commission will be working with the Australian Government Information Management Office (AGIMO) and other stakeholders to develop more detailed advice about technologies (and features of technologies) that are considered to be accessibility supported in the Australian context.

Comment [AA17]: Maybe we should have further discussion about this statement in the near future ☺

Until such advice is available, web developers should give serious consideration to using those technologies that are known to be compatible with WCAG 1.0. In cases where this is not practical, they should seek expert accessibility advice before using other technologies.

4.4. Related Resources

4.4.1 W3C Resources

There is a considerable body of both general and technical literature in the area of web accessibility, involving academic, industry, government and community representatives. A major source of such literature is the Web Accessibility Initiative at the World Wide Web Consortium.

Because WCAG 2.0 is a relatively new Guideline, there are currently few resources such as accessibility checkers available for it. However, the W3C is frequently adding to its collection of WCAG 2.0 resources, including its list of Sufficient Techniques. The following links should provide useful information for web developers:

- Introduction to WCAG 2.0: http://www.w3.org/WAI/intro/wcag.php
- How to Meet WCAG 2.0 (Quick Reference Guide): http://www.w3.org/WAI/WCAG20/quickref/
- Understanding WCAG 2.0: http://www.w3.org/TR/UNDERSTANDING-WCAG20/
- Techniques and Failures for WCAG 2.0: http://www.w3.org/TR/WCAG20-TECHS/

4.4.2 The Australian Government Web ~~Publishing~~ Guide ~~(soon to be known as the Web Guide)~~

The Australian Government's Web Publishing Guide is a tool primarily for use by government web teams, but it can also serve as a guide for best practice for the private sector. It contains a section on the design of content that is accessible to people with a disability:
http://webpublishing.agimo.gov.au/Accessibility.html.

The Guide will be progressively updated to include links to resources related to WCAG 2.0 as they are developed to assist in the implementation of the NTS.

The Commission believes that integrating accessibility into general authoring and publishing advice in this way is the most effective strategy for bringing it into mainstream practice. The Web Publishing Guide is intended to evolve to keep pace with best practice. The Commission believes that reasonable attempts to achieve current best practice will generally satisfy the access requirements of the DDA.

5

What Limits Are There on Obligations to Comply With Access Requirements?

The advice provided in these notes is intended to give effect to the requirement of the DDA for access to be provided without unreasonable barriers that exclude or disadvantage people with disability. In some (but not all) circumstances, obligations under the DDA to provide equal access are limited by the concept of unjustifiable hardship.

5.1 Introduction

A respondent to a complaint lodged under the DDA may be able to demonstrate that it would involve unjustifiable hardship to meet particular access requirements. Web designers and content providers should note that unjustifiable hardship has to be demonstrated and cannot simply be assumed. In particular, stylistic preferences rather than functional requirements are highly unlikely to be accepted as constituting a basis for a defence of unjustifiable hardship (other than in cases where the artistic form of a site is a significant function). This does not imply any attempt to prohibit innovative design. It does mean that design must address access requirements, directly or by provision of alternative means of access.

5.2 How is Unjustifiable Hardship Interpreted?

Where issues of unjustifiable hardship have to be decided, section 11 of the DDA requires the courts to consider all relevant circumstances of the case, including:

- The nature of the benefit or detriment likely to accrue, or be suffered by, any persons concerned;
- The effect of the disability of a person concerned;

- The financial circumstances, and the estimated amount of expenditure required to be made, by the person claiming unjustifiable hardship

- The availability of financial and other assistance to the person claiming unjustifiable hardship; and

- In the case of the provision of services, or the making available of facilities—any relevant action plans given to the Commission under section 64 of the DDA.

Some of the ways these factors may apply to web accessibility issues are as outlined in the following sections.

5.3 Nature of Benefit or Detriment

Unjustifiable hardship decisions involve balancing the benefits of providing equal access against any detriment that may be incurred in achieving access.

Benefits to consider in this area include:

- Direct benefits of access to people with a disability;

- Benefits to other users whose browsers, hardware or line connections have relatively limited capabilities and who therefore benefit from provisions of alternatives (for example being able to turn the display of images off for a whole page or for a particular item);

- Benefit to providers by enabling them to reach an increased range of users, and to reduce the need to implement more expensive means of access which the DDA and/or the marketplace might otherwise require.

Relevant forms of detriment to consider might include:

- Difficulties in achieving compatibility between different access requirements;

- Delays in publication associated with translating one format into another.

These factors, however, may affect how access should be achieved, rather than whether it should be achieved at all.

Where there is doubt about how different factors should be weighed up, it should be noted that the concept of unjustifiable hardship has to be interpreted in the light of the objects of the DDA, including the object to eliminate discrimination "as far as possible". The words "unjustifiable hardship" in themselves also indicate that some degree of hardship may be justifiable, rather than any significant degree of expense or difficulty being accepted as prevailing over claims for equal access.

5.4 Effect of a Person's Disability

In the Commission's view, the reference in the DDA to the effect of a person's disability requires recognition of the fact that disability inherently means that a person may not be able to take advantage of some opportunities, equally effectively with other people or in some cases at all (at least in the present state of what is technically feasible). However, this reference directs attention to the actual effect of a person's disability rather than to assumptions, stereotypes, or generalisations. For example, in the current state of technology the effect of blindness is NOT that a person cannot read web pages. Rather, the effect of this disability is that the person can read only those web pages and web content designed so as to be readable by those devices delivering braille or audio output that are reasonably available to the person.

5.5 Financial Circumstances and Expenditure Required

Financial cost is likely to be less relevant as a limiting factor on required achievement of equal access to web content than in relation to areas such as building access or public transport, where extensive and expensive civil and mechanical engineering requirements arise. To the extent that financial costs do arise, these need to be weighed against the benefits of measures to achieve access, including benefits to people with a disability, other users and potentially to the provider. As indicated by the reference to financial resources, more demanding requirements may be applied to government publishers, corporations and large education providers than to individuals or small businesses. This should not be taken either as a general exemption for smaller providers or as imposing unsustainable requirements on larger providers.

5.6 Action Plan

The DDA allows, and the Commission encourages, service providers to prepare Action Plans indicating the provider's own strategies for eliminating discrimination in its services. Any relevant provisions of such an Action Plan are required to be taken into account in considering a complaint against a provider that has submitted its Action Plan to the Commission. The Commission has materials available on its website that deal with the process of preparing an Action Plan. Direct enquiries should be sent by E-mail to disabdis@humanrights.gov.au.

PDF Accessibility

The following information draws upon the findings of the '2013 Review of the Accessibility of the Portable Document Format for People with a Disability' and provides guidance on the creation of more accessible PDF files. Agencies are encouraged to review this advice to better inform themselves about the accessibility capabilities of PDF.

Comment [SJM1]: To be linked

Accessibility conformance

PDF does not yet have the required accessibility support to fully claim WCAG 2.0 conformance, so in the context of the National Transition Strategy, it cannot be 'relied upon' for the provision of government information. An alternative WCAG2.0 compliant format must be provided with all PDF documents.

Comment [SJM2]: To be linked

Comment [SJM3]: To be linked

However PDFs can be considered accessible or even compliant in many circumstances where PDF Techniques are utilised and the usage situation is conducive to Accessibility Support; for example:

Comment [SJM4]: To be linked

- an Intranet where the organisation provides a standard operating environment for PCs that delivers a suitable accessibility supported platform
- a report where there is a reasonable expectation that its readers would consume the information from a desk based environment, rather than via a mobile device (for example a detailed reference document)
- content with minimal semantic mark-up e.g. plaint text, no tables, no images etc

In these cases a well prepared PDF, can be an acceptable document format.

Before publishing content in PDF, agencies should first consider the needs of their users and how they would best/likely consume the information. Consideration of how the information is likely to be read, either online or offline, whether interactivity is required, methods for download, or a combination, should then inform whether the primary document format will be PDF. If so, agencies should:

- always tag PDF files;
- work with properly structured source files; and
- avoid scanned PDFs, or at least optimise them for accessibility (e.g. using Optical Character Recognition)
- provide a HTML landing page that include summary or overview of the PDF document

Finally, to improve the availability of government information delivered through PDF, AGIMO encourages agencies to provide an alternative means of accessing the information such as:

- another format
- hard copy on demand
- provision of contact details supported by a process that delivers a timely response to a satisfactory conclusion.

Improving accessibility

More information about making PDF documents more accessible is available via the links below. The following slides and associated alternative formats are copyrighted to Adobe Systems and are reproduced here with permission.

Comment [SJM5]: Links to be supplied

- PDF Accessibility for Everyone
  - PDF – 1528KB
  - PowerPoint – 2529KB
  - RTF (no images) – 146KB
- PDF Accessibility for Techo's
  - PDF – 1853KB
  - PowerPoint – 3090KB
  - RTF (no images) – 148KB
- WCAG 2.0 sufficient techniques for PDF
-

Comment [SJM6]: More reference still to be included

Bronwyn Byrnes

From: Arch, Andrew <Andrew.Arch@finance.gov.au>
Sent: Thursday, 29 May 2014 11:22 AM
To: Helen Potts
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

UNCLASSIFIED

Helen – just tried to call you – be good to catch up today.

Andrew

Andrew Arch
Digital Government Strategy (AGIMO)
Department of Finance
p: 02 6215 1618 | w: www.finance.gov.au/agimo/

UNCLASSIFIED

From: Helen Potts [mailto:Helen.Potts@humanrights.gov.au]
Sent: Wednesday, 28 May 2014 1:28 PM
To: Arch, Andrew
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

Hi Andrew,

As you no doubt know Graeme's term ends on July 4th. We are trying to tie up various unfinished tasks. I know you responded to the email below advising that it would be soon – but do you have any idea of when the blog post will be cleared so we can please support the pose and edit our website. It would assist me no end as the policy team currently comprises myself and I am trying to ensure that tasks are finalised.

Happy to chat if that would suit – I will be back in the office tomorrow.

Best
Helen

From: Helen Potts
Sent: Tuesday, 29 April 2014 1:44 PM
To: Andrew Arch (Andrew.Arch@finance.gov.au)
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

Hi Andrew,

I was wondering what was happening regarding the blog post.

Best
Helen

From: Arch, Andrew [mailto:Andrew.Arch@finance.gov.au]
Sent: Thursday, 6 March 2014 12:01 PM
To: Helen Potts
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

UNCLASSIFIED

Thanks Helen – that's terrific.

We'll let you know just as soon as we've got clearance her to release.

Andrew

UNCLASSIFIED

From: Helen Potts [mailto:Helen.Potts@humanrights.gov.au]
Sent: Wednesday, 5 March 2014 4:57 PM
To: Arch, Andrew
Cc: Graeme Innes; Van Teulingen, Jacqui; Miller, Steven
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

Hi Andrew,

Thank you for this – we really appreciate it. Graeme has reviewed and is happy with the blog post and with the changes to our guidance notes.

His suggested quote is:

"Access to the PDF format has significantly improved in the home or office environment. However, in mobile settings – now about 50 percent of internet use in Australia – this is not the case. The Commission therefore continues to regard the PDF format as not accessible in most circumstances."

Would you please let us know when the blog will be released. We can then change our notes, and put them out on social networks.

Let me know if you have any questions.

Cheers
Helen

From: Arch, Andrew [mailto:Andrew.Arch@finance.gov.au]
Sent: Tuesday, 4 March 2014 12:24 PM
To: Helen Potts
Cc: Graeme Innes; Van Teulingen, Jacqui; Miller, Steven
Subject: PDF and accessibility [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hello Helen,

Further to Jacqui's email in January, and her subsequent discussion with you, we've prepared a draft blog post to release shortly with the Vision Australia report stating the position on PDF accessibility – that it can't be relied upon except in certain circumstances like an intranet.

It would be great if we could get a quote from Graeme about the excellent access in the office/home but need to also access much information on the move and the inappropriateness and lack of accessibility to some audiences of PDF in that situation.

I've attached a draft of the blog post – not expecting much change to that (but will send you an update if the sense change). We will also send you a final copy for checking before we publish.

We've also drafted some edits (attached) for your consideration for an update to the WWW Advisory Notes after we release the Vision Australia report.

Please call if you'd like to discuss either of the documents.

Cheers, Andrew

Andrew Arch | Assistant Director
Web Advice and Policy - Accessibility
Australian Government Information Management Office
Department of Finance

T: 02 6215 1618 | **E**: andrew.arch@finance.gov.au
A: Minter Ellison Building, 25 National Circuit, FORREST ACT 2603

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Bronwyn Byrnes

From: Helen Potts
Sent: Thursday, 6 March 2014 12:05 PM
To: Graeme Innes
Subject: FW: PDF and accessibility [SEC=UNCLASSIFIED]

Security Classification:
UNCLASSIFIED

FYI

From: Arch, Andrew [mailto:Andrew.Arch@finance.gov.au]
Sent: Thursday, 6 March 2014 12:01 PM
To: Helen Potts
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

UNCLASSIFIED

Thanks Helen – that's terrific.

We'll let you know just as soon as we've got clearance her to release.

Andrew

UNCLASSIFIED

From: Helen Potts [mailto:Helen.Potts@humanrights.gov.au]
Sent: Wednesday, 5 March 2014 4:57 PM
To: Arch, Andrew
Cc: Graeme Innes; Van Teulingen, Jacqui; Miller, Steven
Subject: RE: PDF and accessibility [SEC=UNCLASSIFIED]

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Andrew Arch | Assistant Director
Web Advice and Policy - Accessibility
Australian Government Information Management Office
Department of Finance

T: 02 6215 1618 | **E**: andrew.arch@finance.gov.au
A: Minter Ellison Building, 25 National Circuit, FORREST ACT 2603

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